

# THE CULTIVATOR.

NEW

"TO IMPROVE THE SOIL AND THE MIND."

SERIES.

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## THE CULTIVATOR

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## REPORT ON FARMS.

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THE New-York State Agricultural Society offered for the year 1845, three premiums on farms, under the following specifications:

"For the best cultivated farm, of not less than fifty acres, exclusive of wood-land and waste-land, regard being had to the quantity and quality of produce, the manner and expense of cultivation, and the actual profits:

First Premium,.....	\$50
Second Premium,.....	30
Third Premium,.....	20

A series of questions was propounded to which the claimants of premiums were required to submit written answers.

The report of the committee appointed to consider the claims and statements offered to the Society under this head, embraces a very large amount of valuable information. It was submitted by the Hon. J. P. BEEKMAN, and is published in the Society's volume of Transactions for last year. The report states that nine several communications were received in answer to the queries proposed; to the authors of three of which the Society's premiums were awarded, and to the authors of the remaining six, were awarded full setts of the Transactions. The statements of the successful competitors are published in full, appended to the report, and an abstract is furnished of the other statements, embracing the most important facts which they contained.

We make the following extracts from the abstract of the statements furnished by the competitors who did receive premiums.

Daniel Gates, of Sullivan, Madison county, obtains an average yield of 55 bushels corn per acre; sows 3½ bushels peas to the acre; yield about 56 bushels per acre. His hogs generally weigh about 370 lbs. each. He destroys the Canada thistle by plowing first in September, and then four or five times the succeeding season, and sowing wheat. His fences are stone, costing a dollar and five cents per rod; stone topped with cedar, ninety-three cents per rod; stumps ranged in line about forty-five cents per rod; and rail fence costing about seventy-six cents per rod.

William Capron, of Macedon, Wayne county, cultivates 107 acres—pursues a regular rotation of crops, so as to come round once in six years. Begins with summer-fallow, followed by wheat; next corn; then barley, followed by wheat, seeded with clover. Sows two bushels of wheat to the acre; leaves his summer-fallow, after plowing, ready to sow in ridges; sows and harrows lengthwise, so as to have the growing wheat as much as possible in drills; sows early in September—if sown too early, there is danger of the Hessian fly—if late, it is liable to rust. Soaks his wheat in brine, and mixes it with slaked lime, before sowing; has never had any rusty wheat. Wheat crop generally averages about 25 bushels per acre—never less than 20. Sows three bushels barley to the acre; average crop, 30 bushels to the acre; manures for corn 50 to 60 loads to the acre. Sows clover and timothy, from 7 to 10 lbs. per acre; meadows yield about 2½ tons to the acre. He salts his hay, one peck to the ton, if any way damp—if perfectly dry, does not use it.

N. S. Wright, of Vernon Centre, Oneida county, thinks the Devons mixed with the native breed, are the hardiest animals and easiest kept. Keeps 209 sheep; his wool averaging about 3 lbs. per fleece, and sold the largest portion for 62½ cents per lb. His hogs at nine months, average 390 lbs.

Rufus S. Ransom, Perryville, Madison county, made the following experiment with potatoes. On one row he put on each hill a teaspoonful of plaster; on the next, an equal quantity of lime; and on the third, the same quantity of salt. The first row yielded 281 lbs.; the second 300 lbs.; and the third 282 lbs. The fourth row, where nothing had been used, yielded 273 lbs., and the row immediately before the first, 274 lbs. According to this experiment, the lime would have increased the product 16 bushels per acre.

The soil vegetable mould mixed with clay, gravel, and a slight proportion of sand; subsoil clay and shaly slate.

The Committee awarded the first premium to George Geddes, of Camillus, Onondaga county; the second to William Buel, of Gates, Monroe county, and the third to Wm. Garbutt, of Wheatland, Monroe county.

In connexion with the report, the Committee submit some remarks which we deem of so valuable a character that we transcribe them at length

.....

The first series of questions to which answers were required, are, "The kind of soil cultivated, and the manner of doing it." The answers to the first branch of this subject are such as any ordinary intelligent farmer would make, and which were tolerably well understood, perhaps enough for practical purposes. Indeed, the committee found it so; but the second branch of inquiry, viz: "What is the best mode of improving the different kinds of soil on your farm?" admits of great latitude of remark, inasmuch as it is universally conceded that the different kinds of soil, such as clay, sand, gravelly loam, alluvial, or a mixture of two or all the different varieties, must, to be profitable, be cultivated somewhat differently.

The committee will not go into this extensive inquiry. They will take up only one important part of it, and that is the query, "What depth do you plow, and

what effect has deep plowing had on various soils and crops?" Upon reading over the several communications in answer to this inquiry, and as connected with it, the use of the subsoil plow, it will be noticed that the general answer is that the several individuals plow to the depth of from five to seven inches, in one instance I believe to twelve; and that all speak in general terms of deep plowing as beneficial, I think without one dissenting voice. But it must be observed that in no instance does any one give this opinion as the result of careful investigation, founded on a set of experiments intended, as far as can be done, to settle this question. They simply state it as a conviction founded on general observation. The conclusion drawn is probably correct; it is so at least as far as the observation of one of the committee has gone. It is only to be wished, from the importance of the interest involved, that the difference in results of produce from shallow or deep plowing, wide or narrow furrows, one or repeated plowings, and the plowing up every inch of ground, or the leaving half a dozen or more baulks in each furrow, had not been oftener or more satisfactorily tested, and the entire farming community informed of the result, and thus enabled to make up their minds on the best mode, and then adopt it.

In American farming, it is unfortunate for our interests that this subject is yet so imperfectly understood, and that upon the community as a mass, the best mode has not long since been settled, for we see it practised in all its variety, and it appears to at least one of the committee that *shallow* furrows have a decided advantage as to the quantity of land plowed. But is it reasonable that if we are to stir the ground at all, it is not good sense and good farming too, to stir it deep and stir it well? We revolt at the idea of sowing without plowing, because the practice has not only been handed down from remote antiquity as essential to the growth of plants, but not to do it is repugnant to common sense. Does not the same good sense tell us that if it is necessary to loosen the soil imperfectly for the benefit of growing plants, it is more useful to do it in the best possible manner; to stir every part of it and make it as light and loose as possible? By doing so we give to the roots of plants a facility of throwing out their rootlets in every direction; we give them a chance of absorbing all the juices that are in the earth intended for their benefit, of permitting the air to enter the loose soil, and make it more friable; of aiding the rains and dews to penetrate easily and quickly; and if it is a soil that holds water to open the earth to permit it to pass off and not injure the growing plants. These are surely benefits that must have fallen under the observation of every practical farmer, and every encroachment upon them has been visited by corresponding loss. In the nature of things it must be so, for it is the dictate, not only of common sense, but common observation. Are not these the data which ought to govern us in the practice of this important branch of husbandry; and can any man be a good farmer without he follows out these suggestions? For surely if it is necessary to do it at all, it is indispensable to entire success to do it in the most perfect manner. We are not generally careful enough in the selection of our plows, plowmen and teams, for remember all our success as men and citizens depends mainly upon the manner in which this operation of farming is carried out. They who do it the best must be the most successful, and those who do it most imperfectly the least thrifty. Our greatest fault is, we are too much in a hurry with the team, which is usually too light. It is seldom we stop for baulks or to remove obstacles, but good farming will not allow this. Our great object is to mellow the ground perfectly. To do this a baulk must never be made, or if made inadvertently, go back and take it up. We must plow deeply if we wish the roots to penetrate deeply, and take narrow furrows if we intend to turn the entire surface. This is the practice through all the best cultivated parts of Europe, for a furrow from ten to fourteen inches wide is never seen there. From six to seven inches is the width of the furrow slice, and it is as uniform as a good tool, a powerful team, and the

best plowman can make it. The earth is not thrown over in masses to remain as compact and adhering as the simple turning over without breaking up the soil will effect, but the process of plowing pulverizes the soil and opens it. Now, is not one such plowing worth more to the growing plant than two or three, where from twelve to eighteen inch furrows are cut at a slice? In the last there is a mass so large as to remain undisturbed, except simply so far as the turning over is concerned, whilst the other being a smaller quantity will more naturally fall to pieces. Why do we summer fallow, but to give the field the benefit of repeated plowings, thus loosening perfectly every part of it, and permitting every particle of earth to be acted on by the rains, the dews, and the influence of light and warmth? The effect of all this stirring is observable upon the seed put into the ground, for all have observed that the grain sown in a fallowed field will germinate several days quicker than on one where only one plowing has been practised, and the growing plant will maintain its superiority for a long subsequent time. It is to be hoped, therefore, that our farmers will turn their attention to this important subject, and give us the result of some well conducted experiments, which will establish the difference in product between a well stirred or an imperfectly plowed field. Of so much importance is this subject regarded in Europe, that experiments are there in process of execution to ascertain how far spade husbandry as a farming operation will compare with that where the plow is used; and as far as we are informed, although the expense is much greater, a corresponding increase of crop has nevertheless uniformly been the result. Indeed, the experimenters have been induced to carry out their plans and continue the system. Their more numerous population gives them much greater facilities than we enjoy, and they have established the great practical truth, that a deep and perfectly stirred soil is an essential element of a farmer's success.

No one of our several correspondents upon farm management acknowledges the use of the subsoil plow; it really appears, to at least one of the committee, that to follow the first furrow with another team drawing the subsoil plow, and farther deepening it from eight to ten inches, whilst it does not bring this soil to the surface, must be extremely beneficial to all of our root crops, and might be serviceable to corn. It opens the soil where required, together with the ordinary plow, eighteen inches, and thus permits the roots of all plants to penetrate deep, at the same time that it lets off any superfluous or standing water. Good farming must hereafter require the use of this excellent implement in many soils, and the benefits to be derived from it are yet to be more carefully ascertained; but it certainly promises to be one of incomparable value to the farmer. The subject of plowing is a fruitful theme to descant upon for an observing man, fond of the cultivation of the earth. But as there are yet many other topics to be touched upon, each of great importance to the farmer, the committee will forego any further remark on this branch of the subject, but simply will say that the plow for the last six or eight years has received in its construction such important improvements as will amply compensate for all the trouble and expense our state and county fairs have ever cost. It is competition that has brought them for exhibition hundreds of miles to our fairs, and this exhibition and competition have been the cause of the improved construction of the instrument. One fault now is, that they plow too wide. Remedy that evil and they will compare for execution with any plows ever made.

*The next class of queries is on the subject of manures, (viz.) "How many loads of manure (30 bushels to the load) do you usually apply to the acre?" "How do you manage your manure? is it kept under cover? how much do you manufacture? how much apply? of what kind? fermented or unfermented?" &c., &c.* This branch of agriculture is of no less importance than the one upon which the committee have already at some length commented, and is equally deserving of all the consideration that the farmer can bestow upon this part of his



most important vocation. All created things are so constituted that the perfect development of one almost necessarily involves the destruction of its predecessor. This is most emphatically the case with the long list of vegetable productions given us by the Almighty. The death and decay of the one affords the aliment for the growth and development of its successor, and its perfection is much aided by the application of the decayed remains of the former; and the series by carrying out the rule instead of becoming more and more degenerate, is only rendered more vigorous and healthy. Manure, it is generally understood, is the organic remains of what has constituted vegetable life. Its application in this state to the germinating seeds and quickly absorbing roots stimulates the tender plant to put forth all its powers for growth and maturity. That this is a law of creation, is dictated alike by reading, reflection and observation. Men cannot violate this law without loss, nor act upon it without remuneration. Such being the case, what then becomes our duty? Why, to use all our efforts to make or gather so much of this valuable treasure as we can possibly consume. Not to be content with the fecal discharges of our cattle, collected in our barn-yards alone, but to use as much time as is consistent with our other farming duties in collecting all else that will contribute to its increase. Providence has not stinted us to the use only of one kind of manure, but in his wise dispensation he has enlarged the field from which it may be gathered, almost "*ad infinitum*," and made the supply almost exhaustless. Indeed, he has done more; he has made the supply the more abundant, the greater the demand, leaving it to the industry of man alone to make it commensurate to his wants. Within a few years the substances used for it have increased to a great extent, and instead of being confined now only to the supply of the barn-yard, it shows us in its catalogue quite an extended variety. But the great source of dependence for the farmer is his barn-yard, and effort on his part will add much to increase its quantity. Indeed, if he does but proportion his stock to the productions of his farm, he has it in his power constantly to increase its fertility. He must not be content with the gatherings of his stables and cattle yards. He must use abundance of litter—draw in the muck, leaves, scrapings of ditches, sods, ashes, both of wood and coal; indeed, almost every locality has its own peculiar advantages to increase this kind of collection, and it is very easy generally to double the quantity that under the ordinary course of farm management would be collected. Assiduity in this particular is sure to pay well, for by increasing the fertility of the soil, you not only enlarge the crop, but it enhances the means, from its very abundance, for its own subsequent augmentation. The committee, from the several communications on farm management, came to the conclusion that in no one of these did the quantity made come up to the standard they had wished, although in most cases it was fair, yet they do not hesitate to say that in many it ought to have been greatly increased. Until this is done, our crops will not bear a comparison with the average yield in the best cultivated countries abroad. The subject of using fermented or unfermented manures, they will not now touch upon—nor whether it is best to plow it under shallow or deep, or use it as a top-dressing—as all this may vary according to the season of the year and the crop upon which it is intended to be used. To enter into all these details would make this communication too extended.

The remaining queries propounded by the Executive Committee are on "field crops, grass lands, irrigation, domestic animals, fruits, fences, buildings," &c. On these topics we will not now enlarge. How far the answers to the several queries propounded meet the expectations of the committee, the public on reading them can judge as well as they; but they feel called upon to say that it was evident from the several communications, that sufficient attention has not been paid to making regular daily entries in their farmer's journal. Many of these statements no doubt were made with as great a regard to accuracy as circumstances war-

ranted, but in hardly an instance with a definiteness satisfactory to the committee. Indeed it cannot be done to the satisfaction of the farmer without he keeps regular farm accounts of all expenses and all his products. This would give confidence to his statements and precision to his observation, and I have no doubt would end in more individual prosperity than any other plan for his benefit that could be devised. If a farmer, like a merchant, would enter all his transactions, keep a regular debtor and creditor account, and make the requisite notes upon such things as require to be remembered, he would make few annual mistakes on his farm, and still fewer for his ultimate success. He would at the end of the year be enabled to ascertain both his circumstances and the products of his year's labors, and if unsuccessful, it would not be from want of information, should the continuance of a bad system end in bankruptcy. We are yet in hopes as education is diffused and our farmers become more imbued with a desire to adopt all the means to make them better acquainted with their business that the keeping of farm accounts will be generally adopted. It may not be inappropriate to the present occasion to look a little into the statistical information gathered in taking the census of this state as far as its agriculture is concerned. It has been carefully compiled by S. S. Randall, Esq.

[The table here given in the report, is omitted, as the substance of it is embraced in Mr. Randall's summary, published last month. In reference to the average yield of crops—viz: wheat 14 bu., oats 26, barley 16, peas 15, rye 7½, corn 25, potatoes 90—the committee proceed to comment as follows:]

When we look over these results and see how small the quantity raised compared to what has been done—wheat 60 bushels to the acre—oats 70—barley 50—peas 45—rye 40—corn 130—and potatoes 500—it leaves no room to conjecture how much farther we have to advance in Agriculture before we can in truth be called farmers, for three-fourths remain yet to be done. We know it can be done, for we have thousands of instances of the production of these several large crops in the state, and that too in many instances from what was formerly worn-out lands. As a striking instance of this, we will refer you to the report of the officers of the Washington Co. Agricultural Society, contained in this volume. With this view before us, shall we despair to raise the agriculture of this state so that succeeding averages shall testify to our improvement. It must be done. It can be done—and if farmers will call upon the intelligence of the head to aid the labor of the hands, it will be done. We have a noble state, a fertile soil, a salubrious climate and industrious people. All we want is to throw our mental and bodily energies into the fulfilment of the task, and a quadruple product will in a few years compensate you for the toil. When we look at this great state, and cast an eye to what it may become, we are lost in contemplation of her future wealth and greatness, and the Agricultural Society will not do itself justice nor attain the ends of its creation, if, through her efficient committees in their several departments, they do not give an effective impulse to improvement and foster a taste for the pursuit of husbandry among the citizens, and let me mention this for their encouragement, that retiring statesmen of every age and nation have chosen this employment as best fitted to give to life its sweetest charm, and to the restless mind the greatest repose.

All of which is respectfully submitted.

In behalf of the Committee, J. P. BEEKMAN.

**EXTRAORDINARY FECUNDITY.**—An English paper gives an account of a sow which had lately been killed at Lincoln, that had produced the following numbers of pigs in successive litters:—15, 14, 15, 16, 14, 16, 17, 15, 14, 16—152—107 of which were reared. She took the prize for extra stock at Lincoln in 1842, and the first prize in 1844; one of her pigs took the second prize on the latter occasion. She weighed 400 lbs. We once saw a Chinese sow which produced nineteen live pigs at a litter.

## FARM STATEMENTS.

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WE give below the statement of Mr. GEDDES, who received the first premium of the N. Y. State Agricultural Society on farms. The statements of others will follow hereafter.

LUTHER TUCKER, Esq.,

*Rec., Sec'y N. Y. State Ag. Society:*

The following answers to the interrogatories of the New-York State Agricultural Society are respectfully submitted:

1. My home farm consists of three hundred acres. Thirty are in wood. About ten acres of the side hills are unsuitable for plowing, and are only used for pasture; the remainder is under cultivation, except what is required for roads, yards, &c.

2. The soil is principally a disintegrated gypseous shale, it being the first stratum below the Onondaga lime, running up to and taking in some sixteen acres of the lime, which is covered with about one foot of soil. This is in the wood lot, and furnishes quarries of good stone. There were formerly a few cobble stones on the surface, and one very large granite boulder. A small brook running through the farm is bordered by about forty acres of soil that has been deposited by the brook, and is not suited to the production of wheat. In the valley of the brook is found marl and peat, and at the springs that come from the hill sides calcareous tufa.

3. I consider the best modes of improving the soil of my farm to be deep plowing, application of barn-yard manure, free use of sulphate of lime, and frequent plowing in crops of clover.

4. Unless I am plowing in manure, I plow from six to eight inches deep. Deep plowing upon the gypseous shales, never fails to increase fertility. Full trials justify my speaking with confidence on this point.

5. I have not used the subsoil plow, as I have no retentive subsoil on my farm.

6. I apply my barn yard manure in large quantities at a time, preferring to at once do all for a field that I can in this way. About fifty loads of thirty bushels each, of half rotted manure to the acre at a dressing.

My stables are situated on two sides of a square; the manure, as it is taken from the stables, is at once piled in the centre of the yard, as high as a man can pitch it. Sulphate of lime is put on the manure in the stables, and the heap, as soon as fermentation commences, is whitened over with it. My sheep are all fed under cover, and most of their manure is piled under cover in the spring, and rotted. As to keeping manure under cover, my experience has led me to believe, that the best way is to pile it under cover, when it is most convenient to do so, and only then as I am compelled to apply water to the heap to rot it, unless it has received the snows and rains out doors. The coating of sulphate of lime, will, I believe, prevent loss of the gases, and in process of fermentation the heap will settle so close together, that water will not after that enter into it, to any considerable depth, particularly if it was piled high and came up to a sharp point.

7. My means of collecting and making manure, are the straw, corn stalks, and hay raised on the farm, fed to farm stock, and what is not eaten, trampled under foot, and converted as before described, so much of it as goes through the stables. But large quantities of straw never pass through the stables at all; stacks are built in the yards, and the straw is from time to time strewed over the ground, where it receives the snows and rains, and is trampled by the cattle. Embankments around the lower sides of the yard, prevent the water from running off, and confine it in water tight pools, which are filled with straw to absorb the water, except so much of it as is wanted to put on the garden.

8. I make from four to five hundred loads of manure annually, and it is all applied.

9. Most of the manure is put on corn ground. It is drawn on about one-half rotted, and spread over the surface, and plowed under about four inches deep. The reason I do not plow it under deeper is, that I suppose

I must plow deeper the next time to bring up the earth into which the manure has been carried by the rains.

10. I have never used lime in any quantity, excepting in the form of a sulphate as a manure, believing that there is enough in the soil. Sulphate of lime, I use in large quantities; fourteen tons this year. It is sown on all the wheat, corn, barley, and oats, and on the pastures and meadows in quantities varying from one to three bushels to the acre. All the ashes made by my fires is used as a manure, and I think that it is worth as much as the same bulk of sulphate of lime to use on corn. Sulphate of lime has been used on the farm for many years, and in large quantities, and I think it essential in my system of farming. I have not used salt or guano as manure.

I raised this year about

77 acres wheat yield'g	1,616 bu.,	averaging pr. acre,	20.99
15½ " corn,	"	821	" 52.96
18 " barley,	"	665	" 36.94
38 " oats,	"	2,249	" 56.55
2½ " potatoes,	"	292	" 116.80

5,643

50 acres of pasture and 30 of meadow.

12. I sow at the rate of two bushels to the acre, about the fifteenth day of September. I summer fallow but little, and only to kill foul stuff, and to bring the land into a good state of cultivation. A part of my wheat is sown on land that has been pastured, or mowed, plowing it but once, but that done with great care, and as deep as I can. The oat and barley stubble, as a general rule is sown to wheat, plowing only once, having previously fed off the stubble with sheep so close as to have most of the scattered grain picked up. The plowing is done as near the time of sowing the wheat as is practicable, and the wheat is sown upon the fresh furrows, and harrowed in. I have tried various modes of treating stubble, but none of them has answered as well as this. What little grain of the spring crop is left on the ground is turned deep under, and the wheat being on top gets the start of it. The harvesting is done with a cradle. Corn, is generally planted by the tenth day of May, on sod land; most of the manure is put upon this crop. The corn is planted in hills three feet apart each way; from four to six kernels in a hill, and no thinning out is practised. Sulphate of lime, or ashes is put on the corn as soon as it comes up. Two effectual hoeings are given to it, and a cultivator with steel teeth, is run twice each way of the field between the rows, to prepare it for the hoe. Corn plows and cast iron cultivator teeth are entirely discarded.

At the proper time, the stalks are cut up at the surface of the ground, and put into small stooks, and when the corn is husked, the stalks are drawn at once into the barn, without being again set up. In this way they are kept in good condition, and labor saved.

Oats or barley is sown the next spring, on this corn stubble. Of each of these grains, three bushels of seed is put upon an acre. As soon as the grain is up, sulphate of lime is sown. These grains are also sowed on sod land. The reason of this is, I cannot command the manual labor necessary to cultivate *one-fifth* of my land in corn, and secure it at the proper season. The rotation of crops I attempt to pursue, is—first corn, second oats or barley, third wheat on the oat or barley stubble, fourth clover and herds grass pasture—the seed sown on the wheat—fifth meadow. But inasmuch as certain portions of my farm are not suited to raising wheat, and as I cannot command the force necessary to cultivate the proportion of corn, I am compelled to modify; but I come as near to this rotation as I can.

The usual time of sowing barley is as soon as the ground is settled—commonly by the 20th of April. The oats are sowed later generally early in May.

The yield of the crops for this year has already been given, and I think I am safe in saying, that the average of one year with another, upon the system of rotation before given, comes up to that of this year. The pasture will sustain two cows upon an acre, and the hay will generally yield two tons to the acre.



13. This interrogatory has been so far anticipated, that it is only necessary to add, that sometimes manure that is not convenient to draw in the spring, is put upon the corn stubble and upon wheat.

14. This interrogatory has been anticipated, in part. My reasons for applying my manure to corn, are, that I have better means of destroying the seeds of weeds, and from the belief that corn is the best crop to take up that part of the manure that the first crop can use, and that the manure is thus prepared for the crops that follow. Experiments that I have made, go to show that, coarse manure benefits the second crop as much as it does the first—and the third crop cannot but receive great benefit from it. The fourth and fifth crops probably do not impoverish the soil. By this rotation, three crops are had for three plowings; and my experience proves that the soil increases in fertility under this management.

15. Potatoes. In consequence of the disease that has injured this crop, there were but two and a half acres planted this year; the disease was very destructive to my crop last year, but thus far nothing has been discovered of it this year. I have not been able to discover either the cause or remedy for this disease.

16. Herds grass, at the rate of eight quarts to the acre, is sown on bottom land. Clover and herds grass, mixed in equal quantities, is sown on uplands, at the rate of eight quarts to the acre, commonly. Generally sow herds grass in September, when it is sown alone on wheat; but if mixed with clover, sow it in March, on a light snow, if possible; the sowing is done by hand. The last spring, I sowed herds grass seed at the rate of eight quarts to the acre, on a field of wheat that I wanted to mow. Sixteen quarts of clover seed were mixed with the other seed and sown on fifteen and a half acres. In the fall this field was not fed off until the clover headed out, when it appeared finely covered with clover.

17. I usually mow about thirty acres, and expect two tons to the acre. This year the herds grass was killed by a frost late in May, and the estimate made was one ton to the acre. I use the variety of clover known as the "medium," and cut it when one-half of the heads are turned. At this stage, a very considerable proportion of the herds grass will be sufficiently advanced for the seeds to mature. The mode of making the hay, is to move it as little as possible. Generally it is put into cock. When the bottom lands are stocked down, clear herds grass used.

18. There is no part of my farm that cannot be plowed, except the side hills before mentioned. These side hills are in grass and are pastured.

19. I have irrigated a part of my bottom lands. For a few years, the grass was very much increased in quantity; but the herds grass disappeared, and a kind of grass took its place of but little value. I now suppose that the water was suffered to remain too long on the meadow, and thus destroyed the valuable grasses. This meadow has been plowed up, with a view to subdue it, and again seeded it with herds grass; when it is to be hoped a second experiment in irrigation may be made with more skill and better success.

The mode of watering the meadow, was by a small ditch taken out of the brook, at a point high enough to enable me to convey the water through the middle of the meadow. Lateral cuts from this main ditch, with gates, distributed the water.

20. Of the bottom lands mentioned, about twenty acres were very wet, and may have come under the denomination of "low peat lands." This land has been thoroughly drained, with ditches from three to five feet deep. Very heavy oats were this year raised upon some of this land, and about one-half of my corn was upon this description of land. The next year, the whole forty acres are to be planted or sown to oats.

21. There have been four oxen, seventeen cows, and sixteen head of store cattle, eighty sheep, eleven horses, and thirty-three swine kept on the farm the past season, with the exception of a short time. The cattle are either thorough bred, or high grade short horns.

22. I have made no accurate and careful experiments

to test the comparative value of different breeds of cattle.

23. No account is kept of the butter and cheese made on the farm, as it is mostly consumed on the premises.

24. There have been but eighty sheep kept on the farm the past season. My flock has recently been very much reduced, with a view to substitute pure Merinos. My sheep yielded a little over four pounds of wool each, for the whole flock. The pure Merino ewes, each raised a lamb, and they averaged a little over five pounds to the fleece. I think that about ninety lambs may be expected to be raised from one hundred ewes. I have heretofore raised mutton sheep, but have disposed of all my sheep whose chief value was for mutton, and intend to turn my attention to the raising wool, as the first consideration. Two dollars has been about the average price I have received for mutton sheep fattened on grass.

25. There have been thirty-three swine, of grade Berkshire, kept on the farm this year. About one-half of them have been slaughtered. Our hogs weigh from two hundred and fifty to five hundred, averaging over three hundred and fifty, when dressed.

26. No accurate experiments have been made by me, to test the value of roots as compared with Indian corn. I fatten my hogs and cattle on corn ground with the cob. Cooked for hogs, and sometimes cooked and sometimes raw for cattle, being governed in this particular by the amount of grain I am feeding. I think corn the most economical grain I can raise to feed, in view of the prices coarse grains usually bring in market.

27. There are about two hundred apple trees on the farm, most of them grafted—spitzenbergs, russets, pippins, &c.,—most of the approved varieties.

28. Pears, peaches, plums, cherries, quinces, &c., are raised in abundance for our own consumption; and we have many of the best varieties of these fruits; five or six of pears, twenty of peaches, seven or eight of cherries, and four or five of plums.

29. Various insects common to this country have depredated upon the fruit trees; the most troublesome of all, is the common apple tree worm. Strong soap suds applied by means of a piece of sheep skin with the wool on, attached to a pole is the most effectual means of destroying them.

30. My general management of fruit trees is, to prune them annually, keep them free from insects, and see personally to the selection of scions for grafting.

31. I have applied leached ashes to wheat, grass, and corn land, without being able to see any benefit.

32. Besides the mansion house, I have four houses occupied by men that work on the farm. Two of these houses have barns connected with them. In a central position is a grain barn, fifty-four feet long and forty wide, twenty feet high with a stone wall under it—making a granary and sheds. Near the mansion house are the hay barn, sheep barn, and a grain barn fifty-four feet long by thirty-four wide. Basement stories to all these buildings, furnish sheds and stables for the stock; so that every animal I winter, is fed all the valuable food in a rack or manger, and under cover.

Besides these buildings, is the wagon-house, forty-two feet long, with a basement under it; and the tool-house, carriage-house, corn-house, milk-house, smoke-house, ice-house, hen-house, &c. A small mill upon the brook grinds my coarse feed. My yards around the buildings near the mansion are all supplied with water in tubs, sent there by a powerful force pump under the mill, driven by the same wheel that grinds the feed and saws the wood.

33. The common fence on the farm is posts and boards, the posts set three feet or more in the ground. Of red cedar posts I have about three miles—and of other timber for posts, about two miles. I have something more than a mile of stone wall, made from stone quarried from the quarries mentioned. These walls are built four feet ten inches high, two and a half feet thick on the ground, and eight inches thick on top, having the same slant on both sides, and laid straight and strong. This fence costs me \$1.50 a rod, and I build fifty rods or more every year, upon a system of fencing.

that in time will put an end to further expense. The board fence costs 88 to 100 cents a rod. There is a considerable portion of my fences of rails, mostly cedar, but no new rails are made. As to the condition of my fences, I would respectfully refer to the report of the committee on farms for this year, for the county of Onondaga, a copy of which report is attached.

34. Most of my fields have been measured, but sometimes more than one kind of grain is raised in a field—and thus the amount of ground covered by each kind of grain is not always accurately known. All the grain raised on the farm is measured, and the measurements entered in books kept for that purpose by proper men. The work hired by the day is entered in these books, and any other thing that appears of sufficient importance.

These memorandum books furnish most of the materials for a farm book which is kept by myself.

From the farm-book, it appears that there have been nine hundred and twenty-seven days' work done on the farm, from the 1st day of April to the 1st day of November. This account covers all the work done in drawing plaster, sowing it, drawing out manure, threshing and delivering so much of the grain in market as has been sold, and all other men's labor on the farm. There have been produced on the farm five thousand six hundred and forty-three bushels of grain, aside from garden vegetables. Besides this, sixty-six loads of hay.

As the grain is sold, entries are made in the farm book, of the price it brings; and that part of the products of the farm that is kept for home consumption, is estimated at the price it is worth in market. Thus arrived at, the grain and hay raised this year was worth three thousand five hundred and twenty-three dollars and seventy-nine cents.

I have no means of determining the value of the pasture, fruit, and many other things produced on the farm, nor the cost of team work. GEO. GEDDES.

*Fair Mount, Onondaga Co., N. Y., Dec. 31, 1845.*

#### INDIAN CORN: CULTURE OF AT THE SOUTH.

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MR. TUCKER—On the 8th page of the *Cultivator* I this day read an article from "A Young Planter," calling for information. I know not that I am qualified to give the desired information to so young a planter, as he who dates from "Eufaula;" but in consequence of that writer being a devoted friend to a good cause, and as I may possibly do some good, I will at all events try what I can do.

Allow me first to digress from the question, that I may be better enabled to have a hearing. I was absent from this place the years of 1836, 1837, 1838, and 1839; the crops of corn then made here were never exceeding an average of 20 bushels, and seldom to that extent, whether corn was cotton seeded or not. I have since made a crop of corn on 100 acres to average 30 bushels per acre, and do average 30 bushels per acre on my entire crop. As to measurement, my fields are generally square—fences placed on section lines—and where not, they have been surveyed and plotted in a farm book—done by myself, true; but as I can do such little matters, and have no interest in deceiving myself or others, I presume this will suffice.

As to quantity per acre, I have measured my wagon body, and calculated 3 square feet to a bushel of shucked corn. I have measured the same with a barrel, shucking and shelling the same. I have measured my corn cribs, and believe my measurements are mathematically correct. These are my modes of calculating; if such can be relied on, then will I proceed.

In 1838, I had determined on increasing the product of my farm, or setting fire to it and run away by the light; I procured a few two-horse plows, and instructed my overseer in their use. But as well might I have counselled with a wild goose; an overseer's interest is to make a large cotton crop at any expense or any loss. This is changing, for I can lay my hand on men that

I could relinquish the control of my little matters to; enough said.

I began my improvement with deep and thorough plowing. I was not content to see fresh land on the surface, but I required the furrows to be run straight and parallel, so that there would be no unbroken strips or ridges. On my thin land, where 60 acres had produced the two years before not over 15 bushels per acre, I sowed oats, and covered with a horse rake—abolishing the plowing in of grain from that time—1840, when I returned. I cut but little of these oats. The next year I plowed well again, and again sowed to oats; this year I did not cut the third. In 1842 I planted to cotton, in 1843 and '44 to corn, in 1845 to cotton, and this year, these 60 acres are planted to corn and rye.

My general plan is, thin land two years in corn and one in cotton; good land, two years in cotton and one in corn.

I use good plows, and am as particular in my plowing as in any part of my farm operations. Never am I during plowing time without a tape line of 5 feet in my waistcoat pocket, and do not rely on eye sight, and in setting my plow to a required depth, for, after thirty years' constant control of negroes, I find whipping and scolding will not do; constant attention is the only thing. I use all my cotton seed for manure, but I have never yet manured in the hill. I use all manure from my stable, cow and horse lot, and pig sty, but not in the hill. Generally I scatter broadcast; this year in the drill. I have used all my manure for three or four years on my orchard lot, and until this year, as I said, broadcast, not for the main purpose of increasing my crop, but to improve the land, with the view of ceasing the cultivation of any annual crop saving my fruit. I do not burn grass, corn, or cotton stalks. I have in a measure ceased the turning of cattle or horses into my fields; I sow down largely of rye in corn or cotton fields for hogs and sheep; I sow from two to ten or fifteen acres of turneps yearly for stock; I never allow my work horses to be turned out during the crop year, nor even the most of the residue, as I have wagons, or gins, or plows running. I give them an occasional bite in the spring.

If feeding seven mules and 3 horses all the year, besides feeding one to five cows during winter, hogs, and poultry all the year, 120 sheep during winter, and now have enough old corn to take me to the 1st of May, is any evidence that ten hands can make corn, then our Eufaula friend may know it is done here.. In 1844, I made 3,063 bushels of corn; in 1845, I made 2,200 to 2,400 bushels, with 15 acres that my wagon was not in, save to haul two loads, the last day we hauled corn, it being Saturday evening. I could not sell corn of '44 crop at 40 cts., and concluded to gather only enough to do me. This year I have reduced my crop. I work ten hands, and average over 7 bales of 400 lbs. each per hand.

I have thus rambled over ground, that I might give other information than the mere cultivation, because I think there are other things necessary.

When I plow for corn I invariably plow deep; if not done to please me, I plow the middle out early and deep, by running a furrow in the water furrows, and plowing from it to corn with shovel plow, running around corn with a bull tongue plow.

But I will, as requested, state the general routine. If land was in cotton, I lay off rows four feet apart, and bed to it, breaking out all the land, leaving water furrow open with a shovel plow, sow corn one-half bushel per acre—this year 24 bushels to 44 acres; cover with the harrow. My corn is soaked this year in water so hot that the hand can only be borne in it, not too hot for the hand—in which tar one-half gallon to four bushels of corn has been dissolved by pouring on to it, there being about one-half gallon of salt to some 8 or 10 galls. of water, the corn remaining 12 to 24 hours, and rolled when taken out in ashes. Generally, if not wet, I run the harrow over the rows when the corn is getting up, and when the corn is old enough to have three or four leaves, I run around it with a bull-tongue plow, close and deep; I thin as soon as the corn



will bear pulling, *by hand*, and hoe it directly after the bull-tongue. I do not thin out before the hoe, and do not allow the hoe to thin. I thin out to as near 20 inches as I can, preferring about 18, thus giving about 700 plants to the acre. Of this thick stand and firing I will speak hereafter.

If I have no heavy beating rains, I cultivate with the cultivator and harrow, or sometimes give a working with a double shovel-plow. I discard the turning plow from all cultivation, excepting in an emergency, which seldom occurs, as the cultivator, or harrow, or double shovel will clean five acres per day.

If I plant corn land or grain land, I flush the land, then lay off rows 4 feet deep and cover as before. I endeavor to plant and cultivate on a level, which is very nearly secured in the first, by having land bedded up over the former year's water-furrow, and in the last surely. My hills to corn are merely such as are thrown up by surface culture, and are next to no hill. One material thing towards the increase of my present crop is, when I cultivate the last time, about or before the corn is in tassel, I sow down nearly one-half bushel of peas per acre, and cover by this last plowing with the cultivator, which leaves the peas scattered pretty well throughout the middle. This crop shades the land, and gives a very heavy crop of vegetable matter to be plowed in.

Now about the thick stand and close planting. My object is to shade the land early, and prevent the evaporation of the moisture. I planted last year land to corn that was cleared in 1838, cropped every year since, with no manure at all until 1842; the land is level, and was, when cleared, thin land. I planted it 4 feet by about 18 inches, and the crop was nearly if not quite 50 bushels per acre. It fired it is true, but the drouth was very severe, and, by the by, it had been manured for the two preceding years with cotton seed scattered broadcast—a manure that will fire corn in a dry year. I have planted thus for five years, and have averaged on high land, where the overflow of creek or river did not reach, full thirty bushels since I have adopted this plan. Previous to 1840, I planted corn 5 feet by two feet, and never made the crops I have since. I see but little more fired corn than previously. A neighbor\* of mine planted last year two acres to corn three feet by one, land highly manured broadcast with cotton seed, turned under about 5 inches. The crop fired, but not more than the other parts of his plantation; but no matter, for he made 98 bushels of corn from a measured acre, and the corn was measured. He is a neighbor that I have known for twenty years, and will risk my right arm on his veracity. This thing was never believed there before, he believing on distance, and it was planted at my request. Did our Eufaula friend ever see corn fire as bad in a garden where there was deep tilth, as in the same tilth in the field? The garden was cultivated with the hoe, the roots not “all tattered and torn.” I may allude to another friend in an adjoining county,† who made over 100 bushels, if I remember rightly, by planting in drills 3 feet by 1. No manure.

I presume our Eufaula friend does not mean to be particular as to a planter who has 100 to 150 acres in corn, and that the experience of one who plants 75 acres will do as well. I have averaged 30 bushels an acre on 100 acres, and risking not being believed, I fearlessly state the result. I am so far from thinking that I have done great things, that I feel I have not done all I should do, and will not be content until I have brought my entire crop to an average of 50 bushels per acre. I can do it I am satisfied, and without dropping a pound of my average of 7 bales of cotton, averaging 400 lbs. each.

I have been laboring for the last 6 years in endeavoring to induce my brethren of the plow, to examine for themselves, to attend personally to their own business, and to apply the best energies of their minds to their calling. And I entertain a hope that this call from my

Eufaula brother, was brought about by a private letter; if it is so, I am proud and happy to answer it publicly—referring in confidence to my numerous visitors and intimate friends as vouchers for my good intent.

I trust the importance of this matter will be an ample excuse for my having written at such length. I might have merely answered the query, but I felt that to do all the good I aimed at, I should make other statements. And rather than leave a stone unturned, I beg to make a statement. This place was under the control of what were considered good and experienced overseers for several years, and as they had failed to grow 25 bushels per acre, and had given distance, I was ridiculed as being wild and theoretical in daring to attempt an improvement; “a *Dr.* to teach,”—and as my friend “Coke” says to me in a private letter, “they even deny the improvements they see.” But in the teeth of all opposition, not a visitor dare now deny but I have made a great advance. I am not vain, am past being “tickled,”—have had so much that the salt has lost its savor, but I say this to encourage others to persevere in well doing. If I am not mistaken in my Eufaula brother, he may be a younger planter, but an older man, though I have been an “old man” for 30 years, it being my school-boy nick name. At all events I am his and your friend,

M. W. PHILLIPS.

*Log Hall, Edward's Depot, Miss., March 28, 1846.*

NOTE.—In connection with the above communication, we received a letter from ALEXANDER McDONALD, Esq., of Eufaula, Ala. It seems that *Dr. Phillips* was under the impression that Mr. McDONALD wrote the article signed “A YOUNG PLANTER,” in our number for March last, (page 86.) *Dr. P.* therefore first sent the above communication to Mr. McD., with the request that, after perusal, he would forward it to us. In reference to it, Mr. McD says—“I infer from his (*Dr. P.*’s) letter to you on the culture of Indian corn, that he supposes me the writer of the piece signed “A Young Planter,” on page 86, current vol. of the *Cultivator*. My friend is however mistaken. I have at no time appeared in our agricultural papers, only under my proper name; indeed I have long thought that all who write, should do so under their true names. I forward *Dr. P.*’s communication to you most cheerfully, believing as I do that no man is better calculated than he to throw light on the important subject therein treated of.”

In relation to the product of corn-lands in different sections, Mr. McDonald observes—“It is not at all surprising that we find farmers in the vallies of the Mississippi, Wabash, &c., cultivating lands which produce 100 bushels of corn to the acre, while on our light, sandy soils we gather but ten to fifteen bushels per acre; but it is surprising that we should be content with the ten to fifteen bushels per acre, and not make an effort to increase the quantity. I have taken the same view of the subject that I find my friend of Mississippi has done, that is, either to improve my land or abandon it.”

As to means of improvement, Mr. McD. thinks the lands in his section must be highly manured. “Believing so,” he says, “I have, since the first of last January, hauled out and spread over a portion of my farm about forty thousand bushels of compost manure. So soon as I manure my lands, I propose to plant closely. My experience is in favor of close planting where the land will bear up under it; but I have seen several fields of corn entirely ruined by close planting.”

DRIED STRAWBERRIES.—Last summer, by way of experiment, when strawberries were plentiful, the writer attached threads to their stalks, and hung up a few which were over ripe to dry. I placed them inside a window facing the south, where they have remained from June last until the present time (March 28.) They have just been tasted, and the result is most satisfactory. That sweet refreshing acid which is peculiar to the strawberry in full perfection; the flavor of the fruit without any watery taste, is delicious. The strawberry thus dried is a stomachic.—*London Far. Jour.*

\* A. K. Montgomery, of Hinds county.

† R. Y. Rodgers, of Warren Co.

REMARKS ON THE GRAIN-MOTH,  
USUALLY TERMED THE FLYING WEEVIL, OF THE MID-  
DLE AND WESTERN STATES.

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LUTHER TUCKER, Esq.—About six months since, when sending on the amount of my annual subscription to your valuable paper, I remarked, that if you wished it, I would contribute some facts regarding the Flying Weevil. Since that time I have still continued to study the habits of the insect, in order, if possible, to discover some remedy for the evil, as our wheat crops, in this part of the country, during the years 1844 and 1845, had suffered severely. Although the article was written some months since, detailing the then ascertained facts, I delayed sending it for several reasons: On some points regarding the insect I was still uncertain, and desired to make further experiments. I had also written to Mrs. Say, requesting to be informed whether Mr. Say, while he resided here, had described the insect. Although I have received no answer yet to this inquiry, I hasten to forward such facts as have come under my observation, (without however any accompanying drawings of the insect, as I had intended,) because a friend has just put a number of the "Prairie Farmer" into my hands, by which I perceive that Dr. Harris has already received specimens of the insect, of which he has also made drawings, in all its stages, and calls for farther information. My first idea on seeing the paragraph was, that the subject being now in such able hands, any communication from me would be useless; but on second consideration, recollecting that, here, we have an opportunity of inspecting the depredations of the living insect on a large scale, I have concluded to send you such a description of the insect as my limited knowledge of Entomology permits me to give; which, if not scientific, will, I trust, be found sufficiently accurate to enable my brother farmers to detect the enemy when it exists in their crops. To this I shall add, on the habits of the insects and the nature of their depredations, such observations as have been collected by enquiries from others, or made personally; concluding with some account of the usual remedies for the evil, and a suggestion as to a new and if efficacious, easily accessible remedy.

In giving the result of these examinations and experiments, I shall, for the sake of clearness, even at the risk, nay almost certainty, of being considered tedious, put them as answers to questions, such as I should expect persons, unacquainted with the insect and only imperfectly acquainted with entomology, to propose for the sake of information. I shall also endeavor to distinguish rigidly between ascertained facts and mere conjecture or opinion, however such opinion may be warranted by circumstantial evidence.

I. *What is the insect like? What are its external characteristics?* To the readers of the Cultivator it may perhaps be well to mention first what insects (already described throughout the various volumes of that work) it is *not*; and this may afterwards facilitate the reply saying what it is.

It is *not* the Wheat-worm or Weevil of the eastern states, spoken of at pages 23, 73, and 98 in the first vol. of the second series of the Cultivator. Nor is it the Wheat-fly, (*Cecidomyia destructor*) of Great Britain, Canada, and other portions of country, described at page 105 of the above volume. It is *not* any one of the enemies of the wheat crop mentioned in the 3d volume of the Cultivator at pages 65, 111, 118, and 129.

It is *not* the Black Weevil (*Curculio granarius* or *Calandra granaria*) described in the 5th vol., page 121, with which most farmers and millers are well acquainted. Nor is it the Grain-maggot spoken of at page 157 of the same volume.

It is *not* the Grainworm of Western New-York, described in the 6th vol., at page 43.

Nor is it the European Grain-moth (*Tinea granella*), mentioned in the 9th volume of the Cultivator, as having been described by Dr. Harris, in his work on the insects of Massachusetts, injurious to vegetation.

Then what is it? The insect in question having in its perfect state, four scaly or minutely imbricated wings, a spiral tongue, and a hairy body, is *certainly* a Lepidopterous insect. That is to say it belongs, according to the Linnæan arrangement, to the

ORDER LEPIDOPTERA,

which contains three genera; the Butterflies, the Hawk-moths, and the Phalænæ, or Moths.

That the ravages here in the wheat are committed by the worm or larva of a Lepidopterous insect no one can doubt, who has seen as I have, the myriads of moths flying about the grain and threshing machine, while threshing out the crop of 1844, and some few in that of 1845; hence the popular term applied to them of *Flying Weevil*, as we never see the common black weevil flying about our wheat. It is they only, however, of our wheat enemies which are properly *weevil*; as that term is applied by Entomologists, only to a genus of the Coleoptera or hard winged insects, of which the black weevil (*Curculio granarius*) is one species. [Why these black weevils having wings do not fly, I cannot say, but this I can testify, that during seven years, while I had daily opportunity of examining them; and part of which time we were much annoyed by them, in our mill, especially in warm weather, I never yet saw one on the wing, or met with an individual who ever remembered to have seen one of them flying.]

We have an additional proof that these moths are the insects in question. I have several times hatched them out of wheat and corn under large tumblers, and here also frequently found the moth, on dissecting the grains of wheat, just ready to emerge from the pupa case; while in other grains of wheat, I have perceived the moth arrested in its progress, probably by cold weather, half way out of the opening, which is invariably found near the apex of the grain, whenever the insect has completed its metamorphoses, and has left, or is about leaving its dwelling.

Our insect belongs, farther, to the

GENUS PHALÆNA, MOTH;

because its antennæ become gradually smaller from their base to their tip, instead of which those of butterflies are largest at the outer extremity, generally ending in a knob; and because its wings are not vertical, as in butterflies. Another proof of its being a moth, is that, when you view a large heap of weevil eaten grain, in a mill, (without disturbing the grain) you usually only discover the insects *in the day time*, on pretty close inspection; while on surveying them *at night* with a candle, you are surrounded by them, showing that, like most moths, they prefer flying by night.

The moth genus is sub-divided into 8 groups, families or sub-genera, among which are the *Noctuæ* or Owl Moths, and the *Tineæ*, (Destroyers of household stuffs.)

After repeated microscopical observations, believing that I found the tongue of the insect somewhat long, horny and projecting; farther that the thorax seemed crested; the feelers distinct, with the lower joints compressed and the upper naked and cylindrical; and that the wings, when at rest, were deflected, I inclined to place our moth among the *Noctuæ*.

But having latterly, through the kindness of Prof. Norwood, of Madison, had an opportunity to consult Dr. Harris' work, I perceive that he thinks that the fly-weevil of Col. Carter, of Virginia, (evidently our flying-weevil,) will prove no other than the destructive Angoumois moth, (one of the *Tineæ*.) This insect ravaged a province of France of that name, situated near the west coast in about latitude 46, many years since; and a description of it, as given by Duhamel, will be found in Dr. Harris's work, at pages 366 and 367.

Now I am aware how difficult it is for one like myself, not versed in entomology, to decide whether the minute tongue of an insect is projecting and horny; or prominent and membranaceous, (these constituting in the Ency. Brit., article Entomology, the grand characteristic differences between the *Noctuæ* and *Tineæ*) with other such intricate details. And therefore, although I am aided by a tolerable microscope, one lens of which



magnifies the surface of objects, by my estimate, if correct, about 4000 times; still as Dr. Harris now has the insect to examine for himself, I shall not venture an opinion, with regard to the species, except to say that as far as my knowledge extends, his description of the *Anacamptis cerealella*, (Angoumois Moth,) comes very close to that of our moth. In some particulars, perhaps unimportant, however, the description does not, I think, quite apply.

I shall nevertheless submit, with all due humility, as the result of my investigations on the insect in question, in its various stages, the following detailed

#### SPECIFIC CHARACTERS.

**The Egg.**—The speck found on weevil-eaten wheat, on the upper margin of the heart, (*corculum*, or oral spot near the base of the grain, containing the future germ, surrounded by a soft and somewhat waxy material) although just visible to the naked eye, presents, under the microscope, the appearance of from 50 to 100 minute, irregularly-ovoid grains, (somewhat resembling rice,) apparently of albuminous matter, enveloped in a thin pellicle or membrane. From this speck being almost always exactly at the lower orifice of the cavity commenced by the worm, and from its otherwise resembling the eggs of insects, I have always felt confident that this is the egg or eggs, although I cannot detect the living embryo for want, I suppose, of a more powerful lens. At first I supposed the whole only one egg, as it seemed but little larger in proportion to our moth than the egg of the common silkworm moth does to its parent. But, from the fact that these grains can be separated under the microscope, by the point of a very fine needle, I believe the speck will prove to be a cluster of eggs. Even after the worm has commenced its operations, this speck still presents the same external appearance. The membrane seems only to burst below, and allow the escape of the worm or worms as circumstances may require, and still retains its membranous covering, which is not affected by water, as nearly as I can ascertain, unless it be boiling, or nearly so. Why there should be so many eggs in reserve, I cannot say; but sometimes I have found a cluster deposited on nearly every grain which one ear of wheat contains.

**The Larva** is naked, of a dirty white or yellowish color; feet 16 in number. (The first pair of prop-legs is however so minute that it is very difficult to decide, without some possibility of error. There may, therefore, only be fourteen feet.) From one specimen, taken out of corn, when examining its mouth with a needle, I found I could draw a very minute thread. Of this spinning power I could not at first perceive that they made any use; but on close inspection, I observed that the worm just before changing into a chrysalis, seems to shove all its excrementitious deposit to one side and downwards in the old cavity, and then weaves a thin, white, web-like partition, neither vertically nor horizontally, but rather obliquely through the channel, so as to separate the deposit from the chrysalis; the latter being always found with its head towards, and not far from the opening at which the future moth emerges.

Under the microscope, the larva has very much such an appearance as the grub of the cockchafer, (or May-bug,) so often found in our gardens, presents to the naked eye.

The *Pupa* is brown, (becoming darker as it approaches its final transformation,) smaller at each end than in the middle, and not enveloped in any covering.

**The Moth or Perfect Insect.**—Measuring from the head to the extremity of the wings, the moth is usually three-twelfths of an inch long, or in specimens taken out of corn, four-twelfths of an inch long, and one-tenth across. The antennæ, when highly magnified, appear somewhat moniliform, (resembling a necklace,) setaceous, (tapering from the base to the extremity,) and sometimes nearly as long as the body without the wings. The head is usually furnished with two palpi, (feelers,) bent back; second joint naked and cylindrical. (Some specimens certainly have no palpi, but whether such are uniformly of one sex or the other, I cannot decide. I have found palpi on both sexes.) Tongue spi-

ral, longer than the head. The wings extend frequently some distance, at least one-tenth of an inch beyond the abdomen, particularly in the male, whose abdomen is considerably smaller than that of the female. The upper wings are of a color which I think generally speaking would be called gray; but probably entomologists might call it cinereous or ash-colored; where the wings approach the thorax, however, they have more of a bluish tinge, and towards the tips a yellowish tinge; the whole upper surface exhibits a brilliant lustre, resembling satin. The lower wings are darker, inclining to brown, with a broad fringe. When at rest, the wings are somewhat deflected, that is, sloping like the roof of a house. The female is furnished with an ovipositor, which seems capable of being thrust out a considerable distance. Viewed from above or beneath, this egg sheath appears as thin as the edge of a knife blade, but when seen from either side, it presents considerable width, and has on one side an opening, through which, I presume, the eggs are forced out, with the accompanying viscid matter, to attach them firmly to the grain.

This description will, no doubt, appear to many of your readers very dry, and the result very small after so much labor. But I can assure my brother farmers that, to me, the investigation has been full of interest; and I can safely add my testimony, in confirmation of the recommendations, which many have given, of the use of the microscope. It is an instrument calculated to aid us materially, in some portions of our agricultural investigations, (particularly among the animal and vegetable enemies of our crops;) and withal, admirably adapted (when we are contemplating the minute and, but for these lenses, to us invisible world,) to excite our admiration for Nature's works and her immutable laws.

#### II. Where is the insect found?

##### 1. In what kinds of grain?

As far as I have been able to observe for myself, or ascertain from others, in this neighborhood, it never attacks rye; a neighbor informs me, he has found it in oats; and I have found it abundantly in wheat, barley, and Indian corn. (The insect found in corn does not differ in any essential, that I can discover, from that found in wheat; it is usually somewhat larger than the specimens from wheat, but this may be owing to the greater amount of nourishment which the grain has afforded, a grain of corn being so much larger than a grain of wheat.)

##### 2. In what portion of the grain is it found?

The egg is found, as already remarked, on the outside of the wheat, and most generally on the upper margin of the heart, somewhat above the point from which the plume, or infant stem ascends. This being the softest and most easily perforated portion of the grain, the embryo grub, after bursting the under portion of the egg, seems to find no difficulty in entering the grain. Sometimes, however, I have found the egg in the groove of the wheat, but the grub seems to find its way round to the heart, before it commences its attacks. As the larva increases in size, it eats itself a channel lengthwise of the grain, devouring nearly all the farina, until it reaches the upper end of the wheat or corn, when it prepares itself to change into a chrysalis. It leaves the outer skin of the grain, as a covering to the orifice of its cavity, and this is readily burst by the perfect insect, when it is ready to issue forth. By examining this skin, and ascertaining whether it has or has not been burst open on one side, and left like the open clapper or valve of a pump, you can always learn whether the insect is still in, or gone from a perforated grain.

##### 3. In what latitude is it found?

Until the years '44 and '45, the moth had not prevailed, perhaps not even appeared in this latitude (38°) for 15 or 16 years. I have been able to hear of its ravages as far north as Columbus, Ohio, and am informed that the moth prevails more or less every year in Tennessee, and as much farther south as wheat is raised. For the truth of this statement I cannot vouch. The probable northern limit, however, seems to be

about 40°. The extent of country then which they damage must be very great; probably it embraces Virginia, Kentucky, and Tennessee, the south portions of Ohio, Indiana, and Illinois, and perhaps parts of North Carolina, Missouri and Arkansas.

As to the amount of cold which the larva can endure, I will give the following fact. Last winter, finding some sheaves of wheat, which had accidentally been thrown at the bottom of my barley stack, I threw them on the barn floor for examination. They remained there several nights, during one of which the thermometer fell to 0° Fah. On examination, I found some of the larva still alive. But among those heads which I reserved for hatching out, I can now discover few if any larva but what look dark and shrivelled; and consequently, I suppose, are mostly dead. Whether this arose from the cold continuing too long for them I shall not decide; but I think it highly probable, that we shall not be troubled much with them, this season. Should they make their appearance, I will keep a sharp lookout, and may perhaps report progress.

### III. When is the insect found in its various stages?

The egg, or cluster of eggs on the wheat, seems to be deposited on the standing grain by the moth, late in May or early in June, in lat. 38°. As some proof of this, we know that weevils were found early in May, 1845, in the mills here, hatched out of grain in bulk, of 1844. This shows that they were parent moths, ready about that time, to deposit their eggs. My wheat which proved infested by weevil, we commenced cradling when somewhat green, on the 14th of June, and in about 14 days afterwards, most of it was closely stowed away in my barn, the heads all inwards, as in stacking, so that it seemed impossible for a moth to penetrate. There seems every probability from these and other facts, to be enumerated hereafter, that the eggs were deposited previous to this time, and not in the stack or barn, although I regret that my want of sufficient knowledge then of the habits of the insect, prevented me from detecting the moth, (as I think I might have done, very late in the evening or during the night,) busy at the work of destruction, among the standing grain.

Some of the later hatched individuals of this generation must be in existence a month or six weeks later than the above. This is proved by my finding some early corn, which, if I estimate correctly, was fit for their work about the middle of last July,) much weevil eaten, while my late corn escaped almost uninjured.

The early corn was from New-Jersey seed, and was planted, I see, by reference to my farming journal, on the 14th of April, and some of it was ripe enough on the 1st of August to be again sowed broadcast, and made excellent fodder; consequently it was probably in roasting ears about the middle or latter part of July; but of this unfortunately I made no memorandum. Perhaps, in our latitude, finding all the wheat harvested, and stacked too closely for them to penetrate to the ears, they commenced on corn, possibly in its milky state. One fact, however, seems to indicate that they wait till a later period, when the husk is already dry enough to open somewhat. It is at all events an additional argument for supposing that they prefer easily accessible situations, such as standing grain for deposition of their eggs. I invariably found that all ears of weevil eaten corn (maize) had most grains perforated near the top of the ear, where the husk is usually somewhat open, while the but-end generally escapes; and again, ears of corn which have the husk very tight and close at top, scarcely suffer, while those ears which when harvested, showed their husks well opened, are sure to be found the most weevil eaten.

On wheat, since I knew the exact spot to examine, I have usually been able to find the eggs, as I before remarked; but on corn, they have so far eluded my search. Last year, when harvesting some corn late in October, I found the moth sometimes wedged in between two grains, generally head downwards, sometimes flattened between the husks, with occasionally a hole perforated through several folds of husks,

corresponding with the orifice of an empty grain. These moths, I may here remark, as well as the myriads hatched from the new wheat early in the month of August, constitute the second brood or summer generation. As proof that the above is about the period to look out for them, I will state that in 1844 I commenced threshing the product of forty acres on the 2d day of September. The wheat was all weevil-eaten, and being unfit for bread, was sold to a distillery. In 1845, having a smaller crop and knowing more about the moth, I watched it narrowly, and deeming it safest, commenced on the 1st of August to thresh; on the 11th I had some of the wheat ground, and it made good flour; on the 29th of the same month, I took the last to mill; this proved slightly weevil eaten. Those of my neighbors who did not have their wheat ground until some weeks later, could not use their flour. Thus the hatching process and growth of the larvæ seems with us to take place early in August.

### IV. What is the nature of the injury done by the insect?

The perfect insect probably does no harm; but lives like other *depidoptera*, on the nectareous juices of flowers. The mischief is done by the larva or grub, which deprives the grain of most of its farina.

The cluster of eggs is found, as already remarked, on the external skin or bran of the grain, protected by the plume or husk. Thus those eggs on wheat, which had been threshed out, (being chiefly rubbed off) evaded my search; but as soon as I carefully drew back the husk in ears of unthreshed grain, I could generally find them. The channel formed by the larva may be traced even at the earliest periods of its attack, by using the point of a pen-knife, and will be found almost invariably as formerly described, to commence in the soft part of the grain, at or near the upper margin of the heart, the insect devouring a portion of the grain which may be compared to the albumen or white in the egg, but generally leaving uninjured the vitellus or yolk, which envelopes and nourishes the plume. [This accounts for weevil eaten grain growing; although for want of nourishment it generally makes a weakly plant. I am aware that Duhamel and others have stated, in speaking of the Angoumois moth, that the grain will not grow; but I will state why I think it correct. I have myself sowed wheat which seemed perforated in nearly every grain, at the rate of two bushels to the acre; and had about as thick a set as I usually have from one bushel and a half of good wheat. I do not say my experiment is conclusive; but neither can I without farther experimental testimony, believe that there were sufficient of sound grains in mine to make such a set. Many of my neighbors have experienced the same result in sowing their wheat; as we could with difficulty obtain any seed not weevil-eaten.]

The larva continues to eat out the farina from the above mentioned entrance, through to the apex and increases in size during probably some two or three weeks. If the weather or other circumstances are unfavorable to development, I think some of the larva of this second brood do not undergo, or at least, complete their metamorphoses until the following spring; but, if the weather is warm, they will fairly swarm, contrary to Duhamel's account. In fact, this constitutes the main crop, if I may use the term. The old grain gave birth as we have seen, probably in May, to such as had escaped the rigors of the winter, (and furnishing enough at all events to impregnate the standing grain;) the new wheat then gave birth early in August to the large swarms; and as these are but short-lived it must be individuals only of this generation that have been casually retarded, which live in the egg, grub, or chrysalis form until the year following.

How long the summer brood remains in the *chrysalis* state I am not certain, but believe about two or three weeks.

Now if during the early stages, after the hatching of the worm, the wheat be ground into flour, we of course grind up many larva, and have a clammy heavy flour; while later, even if the perfect insect has left the grain, the external covering of the *chrysalis* and the



deposit of the larva necessarily ground up with what little farina is left, renders the flour very bitter and revolting; at least to modern Anglo-Saxon stomachs, unaccustomed to eating birds nests and similar dainties, or unacquainted with the peculiar relish afforded to some palates by broiled locusts, (as in Gambia,) or grubs picked from the bark of trees, as reported of some in the West India Islands.

Our weevil-eaten wheat is besides considered unwholesome, and several protracted cases of intestinal derangement have been traced apparently to this source. The longer the wheat is kept on hand the more it deteriorates, until at length a bushel will not weigh, if I remember correctly, over 45 lbs. The price being one-third, perhaps one half lower than that of good wheat, it is evident that a crop of weevil-eaten wheat when sold at 60 lbs. to the bushel, will realize for its owner considerably less than half the amount which good wheat would have brought him. In this state it is purchased by distillers; and as fire and fermentation are said to purify all things, it is hoped, before it appears in the shape of spirituous liquors, fermentation has done its duty in neutralizing the effects of our four winged foes. Should, however, any evil result to those using the beverage, it would be hardly fair to convict our ill-fated moth of all the mischief; as King Alcohol ought to come in for a fair share.

#### V. What is the remedy?

After all, this is the important question. The ascertaining of the species, the investigation of its habits, the determining the position of the egg, and time of its deposition, &c., although interesting in themselves, are chiefly useful as furnishing data for a remedy.

I shall speak first of those remedies in general use.

1. *Scalding* has been practised here successfully. Baskets of grain are dipped into kettles of boiling water for a few seconds, until the water soaks through; the grain is then spread out thin to dry in the sun, on boards or sheets. But the drying is tedious, troublesome, and expensive, especially when there is a succession of wet weather; The flour of scalded wheat, as far as tried here, was excellent; but an experienced miller remarks, that the scalding, by thickening the skin, would considerably increase the bran, at the expense of the superfine flour. This, in merchant mills, if found to be the case, might be sufficient of itself, to prevent its adoption.

2. *Kiln drying* was employed successfully in France. Dr. Harris says a temperature of 167 degrees Fahrenheit continued 12 hours; or 104 degrees continued two days, will kill the insect. Kiln drying possesses the advantages of ensuring the keeping quality of the flour; but the heat requires great care in its regulation. Besides, here they charge five cents per bushel for the operation; and it is only rarely that suitable kilns can be found through the country.

3. *Salt*, as a preventive, has been recommended; it was even asserted that to put wheat into a barrel and place on it a pint of salt, would prevent the insect from damaging the grain. Whether the salt could have any effect by somewhat lowering the temperature, or whether some other circumstances, in the threshing or storing of the grain was the cause why it appeared, as asserted, less weevil eaten than that which had not been salted, I do not pretend to decide. But of this I am certain, that among those who said they succeeded by this means, none so far as I could learn, had put away two portions treated exactly alike, except that the one had, and the other had not salt over it. I consider the question, therefore, as the president says, in the debating societies, still "open for discussion" or what is much better, for experiment.

4. *Sprinkling with Lime*.—The incorporating thoroughly of about 1 bushel of lime with 100 bushels of wheat, when putting away the latter, in the garner, was here at first supposed efficacious. But one fact, well ascertained, is worth folios of suppositions. A neighboring farmer mixed lime with his wheat, in 1844, stirred it and sunned it repeatedly. This wheat kept unusually well, but few weevils hatching out. Being however a shrewd man, he, in 1845, resolved to

test the matter fairly. One portion of his wheat he stirred and sunned *without* liming it; another portion he *limed*, but did not stir or sun it. The first saved well; the latter was much weevil eaten. These particulars I ascertained personally from him, as I went to him purposely to know. I do not pretend to decide, whether stirring the wheat rubbed off the eggs before they could hatch, or whether the power of our meridian July sun is sufficient to destroy the embryo life in the egg, or whether the effect is produced by some other cause; but the fact that early threshing, stirring, and sunning, seem tolerably effectual, in some way or other, is strongly corroborated by most of the testimony I have collected on the subject.

5. *Time of Sowing*.—I cannot ascertain that late or early sowing of wheat, has any effect in increasing or decreasing the evil.

6. *Untried Remedy*.—Finding the eggs on the spot already mentioned, outside of the grain, and perceiving, also, that by dry friction between my hands, of some 40 or 50 grains, the eggs rubbed off pretty readily, it occurred to me that this might be done on a large scale. This, I regret to say, I have not had an opportunity of testing in practice, but I have learned various facts, which I think render it probable that the purpose would be fully accomplished by rubbers, (small mill stones, turning very rapidly, and set far enough apart to rub, but not bruise the grain,) such as are used in Virginia and other large wheat-growing districts. Perhaps the same object might be effected by a smut machine. The facts are these: Rubbers, I am informed by experienced Virginia millers, and smut machines, as asserted to me by a stranger, (of whose correctness, therefore, I have not the means of judging,) will rub wheat until the grain is thereby deprived of the downy pubescence at the apex, familiarly, I believe, termed, "fuzz." Rubbers or smut machines are almost absolutely necessary to ensure first rate flour; more especially in the west, where so much grain is got out on dirt floors. So that, should rubbers prove efficacious against weevil, the outlay would be no new, or otherwise useless expense. I am farther informed, that three feet rubbers could be made to clean or rub 1000 bushels in a day. In this case, I estimate that the expense of rubbing ought not to be over *one cent per bushel*. To this expense any farmer would gladly submit in a weevil year, to secure his crop from being worm-eaten.

But to ensure success, he must, if my views be correct, examine the grain attentively at harvest time, and if there be signs of eggs, thresh out his grain as soon as practicable, certainly not later here than the latter part of July. He may then take it to the rubbers, pay his rent—a bushel—and bring it home to his garner; or what he has to spare, the miller or merchant would then readily buy of him, if once the operation is proved to be effectual in preserving it. An intelligent carpenter here says he has been for sometime thinking about, and he believes has contrived, a new kind of smut machine, which he attaches to the common wheat fan or winnowing machine. Should this prove the case, of course the farmer might rub his own grain free from weevil, without going to mill.

Should all these remedies fail, I have another *corps de reserve*, which, I will mention, although I fear it will prove a "forlorn hope."

In no instance, when dissecting grain, did I find two similar worms in one grain; but I occasionally found our worm *hors de combat* or nearly so; the juices of his body extracted, and a smaller worm alongside, revelling in the spoils. The latter had a shape somewhat like an hour-glass, contracted in the middle, but enlarging both ways until the extremities again become pointed. This fellow was fat enough. Occasionally I detected similar larva farther advanced, and finally changed into small black flies, of which some farmers had noticed large numbers, among the "tailings" of the winnowing machine. They supposed them a new enemy; but I am much mistaken if they do not prove friends, instead of foes; being no other, I imagine, than a species of ichneumon fly; (similar probable to the *Ceraphron destructor*, which preys on

the European Grain-worm.) It is true, their assistance does not arrive before the wheat is injured for flour, but they might aid in diminishing the enemies' ranks for the next season.

I hope your readers will do me the justice to admit that, if I have made this article twice as long and tiresome as it should be, I have at least duly interlarded it with "possibly," "perhaps," "as nearly as I can ascertain," and the like. This I do, partly, in order that, should Dr. Harris, or any other close investigator, detect me in error, I may be able to secure an honorable retreat, without danger of losing my character, as an accurate experimenter, or of being totally excluded from your columns.

But seriously, when we consider how difficult it already is to separate truth from error, and how impossible for each individual to determine, by personal investigation or experiment, the truth or falsehood of each asserted fact, it seems highly important (at least if we desire to advance knowledge in the world,) that statements made to the public should never be given as *decided facts*, unless warranted by repeated experiments.

Even then we shall have errors enough; without this precaution, we must expect to have "confusion worse confounded."

RICHARD OWEN.

*New-Harmony, May 4, 1846.*

P. S. If you desire it, I can still send you drawings of the insect, in its various stages; exhibiting the moth of its natural size, and showing the appearance of the head and ovipositor, when magnified.

May 10. This morning, although the thermometer is at 65 degrees, I found two moths, contrary to my expectation, ready to hatch out of corn; one of them had its antennæ and part of its head out of the orifice, apparently reconnoitering the prospect. I extricated them both, by splitting the grains of corn, and found one of them encumbered with the pupa case; the other, on the contrary, rather to my surprise, was enveloped in a white, web-like casing, which, except in this instance, had always appeared to me to be used only as a partition in the channel, not as an envelope for the chrysalis.

[We should be very glad to receive the drawings offered.—Ed]

#### PRINCIPLES OF BREEDING.

.....

WE have been several times requested to say something in regard to what is called "*in and in*" breeding. We are by no means confident, however, that any remarks of ours can throw light on the subject; though often discussed, it is still involved in intricacy. In endeavoring to understand it, the first point to be settled, is the precise meaning of the term "*in-and-in*" breeding. It seems to be understood variously—as some suppose it to apply to animals of any degree of relationship—others apply it to breeding from the same *family*, without particularly defining the affinity of blood which animals bred together should possess to justify the use of the term. Thus they regard the produce of father and daughter, or mother and son, as animals bred *in-and-in*; using the same term in this case as they would do in reference to the produce of brother and sister. But a strict definition is evidently necessary, otherwise the use of the term is wholly random, and its signification so uncertain that it conveys only a vague idea.

What, then, is *in-and-in* breeding? Sir JOHN S. SEBRIGHT, in a letter on the "Art of Improving the Breeds of Domestic Animals," published some years since by the British Board of Agriculture, considers the term to signify breeding from animals of *precisely the same blood*. This is an intelligible, and we believe correct definition. It has also been assented to, and its adoption advocated with force, by JOHN HARE POWELL, Esq., a citizen of our own country, who has in times past been eminently distinguished as a breeder of stock.

Upon the basis of this definition it follows that no course of breeding can be strictly *in-and-in* except that which results from coupling animals of exactly the same blood, and this, probably, can rarely happen but by an union of brother and sister, or of animals which were originally derived from such an union. Where the original male and female were of different families, it is obvious that the offspring does not possess the same blood of either of the parents, but has just half the blood of each. The produce of this offspring and either of the parents, would be three-fourths of one of the first pair, and one-fourth of the other. The next generation, bred in the same way, would be seven-eighths of the parent, the next fifteen-sixteenths, and so on; the blood of one of the original ancestors increasing and the other diminishing in this ratio with each generation. This and similar courses of breeding have been aptly denominated "*breeding in*;" and the term "*close breeding*" is also more or less applicable, according to the nearness of relationship existing between animals coupled together, or according to the extent to which breeding *in* is carried.

Having settled what is to be understood by the term "*in-and-in*," we will proceed to consider the expediency of that course of breeding. And it may be observed in the first place, that although many distinguished breeders have advocated and followed, more or less, breeding *in*, or close breeding, very few, if any, have recommended *in-and-in* breeding, *as here defined*.\* The effects of the course when carried on for several generations, cannot perhaps be better described than in the language of SEBRIGHT, in the essay above referred to. "I have," says he, "tried many experiments by breeding *in-and-in*, upon dogs, fowls, and pigeons; the dogs became from strong spaniels, weak and diminutive lap-dogs; the fowls became long in the legs, small in the body, and bad feeders. \* \* \* Indeed I have no doubt but that by this practice being continued, animals would, in course of time, degenerate to such a degree as to become incapable of breeding at all."

It is a maxim in physics that an effect is not produced without a cause. Hence it is natural to ask a reason for the ill effects alleged to be produced by *in-and-in* breeding. We will endeavor to give one, which, though not entirely original, is in some respects different from any we have seen offered.

It is admitted that different families of animals have certain hereditary tendencies. The proneness to particular diseases in families of the human race, is evidence of this. Now it is plain that where two animals of the same blood and the same hereditary tendencies, are coupled together, there would be a greater liability in the progeny to exhibit any defect or disease which belonged to the family, than there would be if only one of the parents had this constitutional tendency. Hence we see the defects of parents augmented in the progeny.

This we believe to be the true cause of the degeneracy which ensues from *in-and-in* breeding. But let us not be misunderstood. It is not merely the *nearness of relationship* which produces these consequences; for we can readily believe that they might follow where the parents were not at all connected by consanguinity. The animals might belong to families wholly distinct, and yet their hereditary tendencies be similar. For example: let there be chosen a bull and cow wholly unrelated, or even of different breeds, each of which has disease of the liver to the same degree, and each also an equal hereditary tendency to that disease; the progeny generated by two such animals would no doubt have the same predisposition to the defect or disease of the parent as if both the latter had been of the same family. Thus the degeneracy of offspring is not owing to the relationship, simply, but to the natural defects of the parents or ancestors. The skillful breeder will therefore select his animals for propagation with a

\* It is proper to remark that breeding *in* when carried to a certain extent, may be expected to produce results similar to those of breeding *in-and-in*; that is, the consequences of the former will resemble those of the latter system, in proportion as the blood of the animals bred together becomes similar.



view of avoiding defects and increasing excellencies in the progeny.

But it may be said that excellencies as well as defects are transmissible hereditarily; and as animals of near relationship are sometimes found which possess certain valuable qualities in a greater degree than they are to be found elsewhere, the question is suggested—Why not permit these animals to breed together? This we should be in favor of to a certain extent; but the animals should be selected with judgment, and with particular care that they have not a predisposition to important defects. It will not do to rely on the idea that their good points will overpower their bad ones; for as their superior points or qualities are probably the result of art or accident, (not being natural or common to the race,) their defects will be more likely to be increased in the progeny than their excellencies.\*

The remark in relation to animals which exhibit peculiarities not common to the race, we will endeavor to illustrate. For instance, in a species of squirrels, the general color of which is grey, we now and then find those which are perfectly white, and others which are black. Similar deviations from the general color of the species are met with also in mice, and other animals. The same thing is found in birds. We have heard of crows which were nearly white, and we have seen (to use a paradox) a white black-bird. Changes of form and habits are likewise met with which are equally striking. Animals which exhibit such deviations from the general characteristics of the race to which they belong, may be deemed *monstrosities*; but if it is wished to perpetuate their singular qualities, it is obviously necessary to adhere as closely as practicable in breeding, to the strain of blood in which these qualities are manifested. If, instead of this, the animals are allowed to breed with those which do not possess the desired peculiarity, the new traits, having no fixed hold on the blood are soon mingled and lost in the general current of the race which runs in a different direction.

Thus, where an extraordinary disposition to secrete fat is exhibited by a particular cow and her progeny, it may become necessary in order to secure that quality and increase the number of animals possessing it, to breed from near affinities. But much will depend on the skill used in selecting the animals to breed together, and only experience and the closest observation, aided by good judgment, can guide to successful results.

We would not, however, advise breeding from near affinities, except so far as may be necessary to fix some valuable quality not belonging to the race in general. Where no superiority is exhibited in a particular family, or where the individuals composing a race are nearly similar, we can see no advantage in resorting to the system.

In regard to the supposed necessity of *crossing breeds*, there are certain vague theories which we would by no means countenance. Some appear to imagine that breeds of animals cannot be continued pure without deterioration. This notion leads those who entertain it, to make various mixtures in breeding, in the hope either of avoiding degeneracy or creating improvement. We believe that the idea is not only unsound, but that, if it were carried out in practice, it would be productive of incalculable injury, by destroying the important distinctions which naturally exist among animals, and by which different species and breeds are admirably adapted to different locations and purposes.

No degeneracy is observable in animals in a state of nature. Among the various wild races (though as has been stated, some *occasional* changes occur,)

\* Sebright observes that—"If one male and one female only of a valuable breed could be obtained, the offspring should be separated, and placed in situations as dissimilar as possible; for animals kept together are all subjected to the effects of the same climate, of the same food, and of the same mode of treatment, and consequently to the same diseases, particularly to such as are infectious, which must accelerate the effects of breeding in-and-in. By establishing the breed in different places, and by selecting with a view to obtain different properties in these several colonies, we may perhaps be enabled to continue the breed for some time, without the intermixture of other blood."

the principal characteristics are continued from generation to generation. There is no evidence that wild geese or wild ducks degenerate; and no person can reasonably believe that the buffaloes of our western prairies need crossing, or that they could be improved for the situation they occupy by any foreign mixture. The same remark will probably apply to the West-Highland cattle of Scotland, and to some of the mountain and other breeds of sheep. SEBRIGHT has well remarked, however, that the circumstances in which wild animals are placed, "produce all the good effects of the most skilful selection;"\* and though it is not unlikely that they frequently breed from close affinities, their freedom from disease or defect probably prevents the bad consequences which might attend such breeding with animals in an artificial state. The conclusion therefore is, that aboriginal races and breeds are readily continued without crossing. With varieties which have been produced by crosses, it is admitted the case is different. The original fixed habit being broken up by the cross, their course becomes erratic, and their qualities various. Hence the exercise of much skill is required to continue them. "What has been produced by art," says SEBRIGHT, "must be continued by art."

#### PERIOD OF GESTATION IN SHEEP.

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T. E. PAWLETT, in the London Farmers' Magazine, states he found by observations very carefully made, that the time his ewes went with lamb was as follows:

	Weeks.	Days.
The longest time any ewe went with a		
ram lamb, was,.....	22	4
The shortest, .....	21	0
The longest time any one went with an		
ewe lamb, was .....	22	2
The shortest time,.....	20	4

He adds that he thinks this proves the opinion to be correct, that animals go longer with males than females, though the difference is trifling.

Mr. PAWLETT also states that he has found the following receipt of great benefit to lambs when they scour:—

Epsom salts, ..... 6 ounces.  
Nitric in powder, ..... 4 "  
Boiling water, ..... 3 pints.

Pour the water hot upon the salts and nitre; with new milk (warm) add spirits of turpentine, 4 ounces; bol ammoniac in powder,  $\frac{1}{2}$  an ounce; mix and shake them well together. If necessary, repeat the drink every day or two. About 3 or 4 table spoonfuls may be given to a sheep for a dose, and lambs in proportion to their size.

#### BREEDING COWS.

.....

Mr. J. WEEB, veterinary surgeon, remarks, in an article on the "Management of Breeding Cows," published in the Farmers' Magazine, that—"it is only from the healthy mothers that a healthy offspring can be expected." He further remarks, "from whatever cause it may happen, if a cow is diseased and the blood contaminated, the offspring must less or more, inherit her disease; for it is from the blood and the most vital fluids of the cow, that the calf is supported in the womb."

English flat turneps can be sown as late as the 25th of July, or the 1st of August, and will yield a good crop.

\* Speaking of animals in a wild state, Sebright says—"The greatest number of females will of course fall to the share of the most vigorous males; and the strongest individuals of both sexes, by driving away the weakest, will enjoy the best food and most favorable situations for themselves and their offspring. A severe winter, or a scarcity of food, by destroying the weak and the unhealthy, has all the good effects of the most skilful selection. In cold and barren lands no animals can live to the age of maturity, but those who have strong constitutions; the weak and the unhealthy do not live to propagate their infirmities, as is too often the case with our domestic animals."





lished themselves mostly together in some one part of the kingdom, where they have a wool market of their own, in which they seek for the qualities and descriptions suitable for their purpose, and will buy no other. The broad-cloth makers in the west of England—the worsted combers of Yorkshire—the flannel manufacturers of Rochdale—and those who make hosiery in Nottingham—purchase in their several markets a supply suitable only for their own machinery. So nice does this discrimination run, that the fleeces of fine wool taken from sheep one year old, which were never before shorn, are mostly sent to one part of the country and there sold to be used for one purpose, and the fleeces taken from the same sheep the next year, are sent to another part of the country, and there wrought into a very different kind of goods. Thus it is of great importance that *fleece* wool for shipment, before it goes on board, should be sacked and sorted according to the grades of foreign manufacturers, and suitable for their purposes, in order that it may be sold *directly* to them, —otherwise, even if clean and in good order, it must pass first through other hands, that re-sort it, resack it, and distribute it to various parts of the kingdom at considerable expense.

"The size of the bales is the next thing to be kept in view. I have paid on large shipments as high as one dollar *per bale* for 'dock dues,' without reference to the size of the bales; while at some ports the charge is less than one tenth part of this sum.

"Custom in England, gives the purchaser an allowance on *each bale* called 'the draft;' but the amount thus given varies at the different markets. I have many accounts of sales in which only one pound weight *per bale* is deducted for 'the draft.' I have other accounts of sales made in different places, in which two pounds, and three pounds, and four pounds, and even eight pounds *per bale* is deducted for 'the draft,' without reference to the size of the bale. This may seem unreasonable, but is established by the ancient usage of the different markets, and must be complied with. The bales should therefore be of a size suited to their destination; but not too large, else they will not be lifted, but rolled over the docks and streets. Each sack should be firmly packed by a man inside, but never pressed by machinery, and every fleece of weak staple carefully rejected, and those fleeces packed by themselves.

"The shipment then requires some attention. The wool should be placed on board dry, with the sacking whole and clean, and should always be sent as light freight in the upper part of the vessel. Our wool contains too much oil and gummy matter to be placed low in the ship, with heavy weights pressing upon it, without being in some degree injured by matting together."

#### SUBSOIL PLOWING.

.....

THE advantages of subsoil plowing are no doubt greater on soils having a close hard-pan subsoil, than on those of a loose and open nature. In the English Agricultural Gazette, we find an account of some experiments, a brief sketch of which may afford interest.

1. A field of 13 acres, "partly heavy on a dry subsoil, and partly dry on a gravelly subsoil," was subsoiled to the depth of 7 to 8 inches—the subsoil plow being preceded by a common plow which worked from 6 to 7 inches deep. The field had been plowed many years, and a hard crust was formed which was in many cases almost impenetrable to water. Two acres only were left plowed in the usual way. The whole field was equally manured and sown with yellow turneps. The appearance of the crop was similar till August, when that portion of it on subsoiled land took the lead, and at harvest gave 26 tons 17 cwt. per acre, while the part plowed in the old way gave only twenty tons 7 cwt. per acre.

2. The second experiment was made on a deep soil inclining to sand, on a subsoil of sandy clay. Two acres were subsoiled 15 inches deep, two were plowed 6 or 7 inches, and two ridges were trench-plowed 13

inches deep. The whole was planted to potatoes, and subjected to the same treatment as to manure and culture. The subsoiled yielded 7 tons and 9 cwt. 2 qrs.; trenched, 7 tons 1 cwt. 2 qrs; plowed, 6 tons 14 cwt. 1 qr.

3. The potato crop was followed by barley. The subsoiled part kept the lead throughout, and at harvest gave 8 qrs. 3 bushels barley, and 36½ cwt. of straw per acre; the plowed part, 7 qrs. 4 bushels 3 pecks barley, and 28 cwt. straw per acre.

#### PROTECTION AGAINST INSECTS.

.....

If you would save your cucumber-vines and cabbage-plants against the attacks of bugs and worms, go early in the morning, while the worms are sluggish from satiety, and dampness prevents the bugs from flying, and kill them all. Some say "kill them with the thumb and finger;" but we don't see that this mode of inflicting "capital punishment" has any special advantages, and it seems to us that the office of executioner would be a very disagreeable one, especially when the subjects were the big, black "pumpkin bugs," which emit a worse smell than a skunk. A couple of pieces of shingle, one of which may be three inches wide, and the other an inch and a half, the latter brought to a point at the bottom, are the best "instruments of death" in this case. Crush the insects between the pieces of shingles.

It is easy to see in the morning where a plant has been cut off by a worm the night before, and he will generally be found at that time in his burrow near the stump of the cut plant. He will be buried generally not more than half an inch, and is readily dug out with the narrow pointed shingle. The bugs of all kinds, while the plants are young, will invariably be found in the morning huddled around the stems. If you are "on hand" soon after sun-rise, they will be "dosed," and are easily killed.

Do not rely on the "unparalleled agency of salt in destroying insects," nor of keeping them away by the smell of onion-stalks "stuck round the hill;" but hunt them out, as you would wild beasts. As an auxiliary to this hunting, and to make the plants grow rapidly and get out of the way of insects, the writer has sometimes used hen dung water that has stood till it has become fetid; turning a half pint. or so, on each hill every day. Guano water would doubtless be similar; but it must not be too strong—four pounds of guano to twelve gallons of water is thought to be sufficient.

#### AYRSHIRE COWS.

.....

THOSE who have visited Mr. PRENTICE'S farm, near this city, can hardly have failed to notice among the stately Durham cattle there, a small family of Ayrshires. The latter consist of a cow which was imported from Scotland in 1842, and some four or five of her descendants of the first and second generation, all of which bear a striking resemblance to the first named cow. Only one of the young stock has yet bred, but the imported cow has had a calf every year since she has been in this country, and has been in milk nearly the whole time. Though of very small size, she is in shape, a perfect model of a milch cow, and her product at the pail is remarkable—giving this season, on grass feed, upwards of twenty quarts of milk per day; the quantity having been ascertained by actual measurement. Considering her diminutive size, which, compared with most other cows, scarcely bears a greater proportion than that of the Shetland pony to a coach horse, we think this very extraordinary.

DRIVING NAILS.—A correspondent informs us that a cut nail may be driven into the hardest dry wood without bending, simply by dipping the point of the nail into oil or grease.

## POOR MAN'S COTTAGE.

I have looked over your useful paper for many years past, with no small degree of interest, to find a plan for a house at once convenient and comfortable, and cheap in its construction; and although many have been presented, yet none, in the opinion of the writer, combines the above properties in a degree equal to the plan herewith sent. The house is built on a side hill, and exclusive of the basement, is one and a half stories high, and is 33 feet by 28.

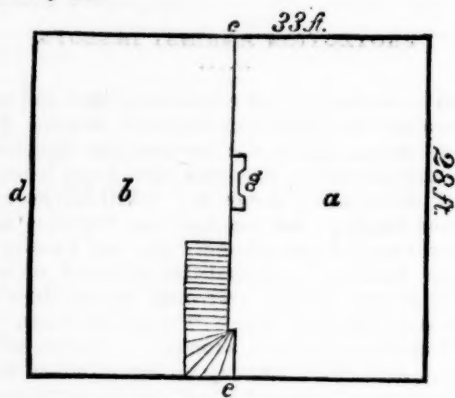
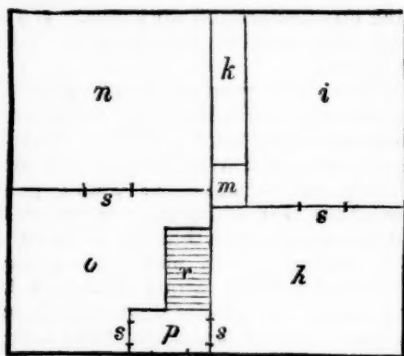


Fig. 59.

Fig. 59, is the basement plan; the cellar *b*, is enclosed with a stone wall commencing at *c*, and running thence along the side *d*, to *e*; *a* is the kitchen, and *g* the fire place; *e*, stairs. There is a wall one foot high around the kitchen, being even with the floor thereof, and the sides of the kitchen are enclosed with studding, weather-boarded on the out side, and lathed and plastered on the inside—being cheaper than stone wall, and dryer.



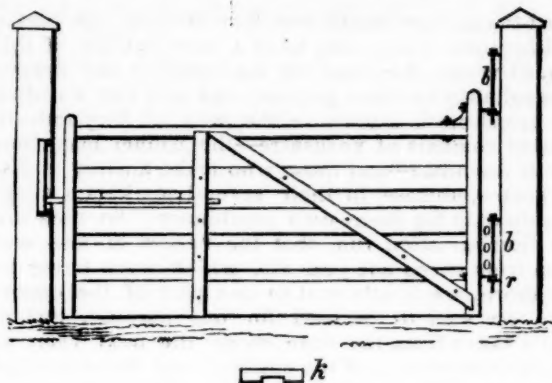
(Fig. 60.)

Fig. 60 represents the second and entrance story; *h*, is a parlor; *i*, bed-room; *k*, closets; *m*, the chimney; *n*, bed-room; *o*, dining-room; *p*, vestibule; *r*, stairs, leading from vestibule to upper story; *s*, doors. The communication with the basement is by stairs leading from dining-room. The cheapness of the house consists in the small amount of stone work, being only about 25 perch, and there being but one fire-place, viz., in the kitchen, with the flue thereof running up and connecting with the four rooms above, all of which are warmed with stoves attached with pipe to the flue or chimney. I find no inconvenience from there being several pipes running into one flue—it seems to increase the draft. By having but one fire-place there is a great saving in brick, and cost of building chimney and mantle pieces. You can place the windows to suit the builder, and also can enlarge or diminish the whole plan, and also give the exterior an appearance to suit all tastes.

The cost of building in a country town in Western Pennsylvania, finding all materials, is about \$500, including painting in and out side. I scarcely need add that the building is of frame or wood. The farmer could put up a similar building, with an outlay beyond his own labor, of not more than \$250.

Mercer, Pa., 1846.

H.



FARM GATE.—(Fig. 61.)

HEAD, 3 by 3 inches; heel, 3 by 4; top piece 3 by 3 at one end, and 3 by 4 at the other; upright and slanting braces, one inch thick and 4 wide, one on each side and riveted through. Bottom board 10 inches wide, the other three boards 6 inches wide; the spaces between, 4, 5, 6, and 7 inches; the greatest thickness of the gate, 3 inches. The latch is of hard wood, 2 inches wide, and  $\frac{7}{8}$  of an inch in thickness, suspended by two chains, and plays between the upright slats and through a mortice in the head. The shutting post has a groove on the inside 20 inches long, to receive the latch. The front side of the groove, which may be termed the catch, is so shaped as to throw back the latch until it meets the groove when it comes back into it. As the gate is intended to open but one way, the post is left the full width on the back side of the groove which keeps the latch from passing by.

But the peculiar and most important feature about the gate, is its being hung on iron bolts, and is therefore capable of being raised in the winter as the snow accumulates, without in the least deranging its operation. All who use gates in snowy sections, know by experience, that not only the shovel, but frequently the old axe comes in requisition, and not unfrequently the trouble is so great that the gate is taken off its hinges, and bars substituted during the winter. Now the above plan saves all this trouble; *b, b*, are bolts,  $\frac{7}{8}$  of an inch in diameter, with a screw at the bottom, on which the gate hangs; *o, o, o*, are oblong holes through the lower bolt, 6 inches apart, made to receive the key *k*, which together with the ring *r*, supports the gate when it is raised.

HIGHLANDER.

New-Lisbon, N. Y.

## MALADY OF THE BUTTON-WOOD TREE.

MENTION has before been made of a disease which for several years has attacked the tree usually called button-wood, (*Platanus occidentalis*), in this part of the country, known in the south and west under the name of sycamore. The disease first appeared on the sea-board, in Massachusetts, and other eastern states; and has, we believe, been yearly extending itself westward, though we are unable to say precisely how far it has shown itself in that direction. Many trees have been entirely destroyed in Massachusetts, but we have understood that its ravages have been less severe in that section during the last year or two, than in previous years. We do not think the tree has suffered to so great an extent here, as in some other places. We have noticed that the button-woods were for the two last seasons, rather late in getting into leaf, but thought they finally leaved out better the past spring, than the year before. Lately however, we have observed many trees on which more or less of the leaves have suddenly died, and from present appearances we think it not unlikely that the disease may prove more destructive this year than heretofore. Who can give any light as to the cause? Is it an epidemic, that like the potato disease, is going over the country from east to west?



## THE PEACH WORM.

.....

From the repeated inquiries made relative to this insect, and the great fear which its ravages occasion, we have reason to believe that a comparatively small portion of fruit cultivators understand its habits, and the mode of its destruction. Indeed, the opinion is still very prevalent, that the truly destructive and contagious malady, the yellows, is caused merely by the work of the peach worm.

The presence of the peach worm, which in nearly all cases, confines its operation to the trunk of the tree, at, or a little below the surface of the earth, may be easily detected by the oozing of the gum from the tree at the surface, or at the place of injury, *mixed with matter resembling saw-dust*. Unlike the apple, quince, and locust borers, it confines itself entirely to the *bark*; and hence may be readily followed in its hiding place with the knife without injury to the trunk of the tree. Inexperienced operators often fail in



Fig. 62.

discovering its presence, as it leaves a thin shell on the outer bark as its covering; but one thing is certain, that early in the season, whenever the gummy sawdust is seen, the worm, (or rather *larva*.) may be always detected, if the hole is carefully followed by the knife to the termination. The annexed figure (fig. 62,) represents the most frequent mode of its operating, in young trees, the dotted lines showing the holes cut in the bark beneath the outer shell. *a*, is the worm, *b*, the gummy matter.

From the early part to the middle of summer the worm passes to the pupa state, the appearance of which is shown by figure 63, which represents the follicle enclosing the dormant animal, and composed of pieces of bark cemented by the web; and soon after to the perfect insect, belonging to the miller and butterfly tribe, but more nearly resembling a wasp to a superficial observer. It then deposits

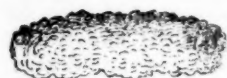


Fig. 63.

its egg in the bark of the tree for another generation. The perfect insect is rarely seen, but it may be obtained by enclosing the pupa, which is easily procured, in a gauze covered frame, until the fly emerges.

The remedy for the peach worm is very simple and effectual, by cutting out with a knife as already described. A single hand will clear hundreds of trees in a day. Passing round among the trees two or three times a year for this purpose is sufficient; early in the season being the proper time. To prevent the fly depositing its eggs, Downing says, that half a peck of air-slacked lime or ashes heaped round the tree early in the season, and left till mid-autumn, has been found successful\*. The lime or ashes may be spread back over the ground, and serves as a good manure for the trees. It must however be observed that this remedy will be ineffectual for insects or eggs already in the tree. They must first be eradicated. It only acts as a preventive. We have never used this remedy, as from the fewness of the trees attacked, we have found it easier to examine those few with the knife. James Worth, as quoted in Say's Entomology, says—"The best plan of guarding against the ravages of this insect, which I have found, is to examine the trees early in July; take a bricklayer's trowel, and opening the ground around the trunk, the lodgment of the insect will be at once discovered by the appearance of the gum, and it can be readily destroyed; one person will thus examine more than a hundred trees in less than half a day, and very few if any will escape." Say

\* In some cases, however, the efficiency of this mode may be questioned, as we have seen the worm at work three feet above ground, at the junction of an apricot graft with a plum stock.

adds, "Mr. Worth examined his fruit trees on the 10th of July, and obtained twenty follicles, and about thirty larvæ; of the follicles, four were empty, the insect having assumed the winged state."



SHOCKS OF WHEAT.—(Fig. 64.)

.....

THE protection of wheat from the rain, while yet remaining in the field, is often a matter of great importance. Wheat cut as early as it should be, to secure it from danger of shelling, and to obtain the heaviest weight of grain,—which has been found by careful experiment to be while one-third or one-quarter of the chaff yet remains green,—is not dry enough to be drawn at once into the barn. In districts liable to sudden and heavy rains, it must be well put up, until thoroughly dried for the stack or mow.

Various modes have been adopted. The simplest is to set up the sheaves in double rows, the heads of the two opposite resting against each other. But this affords no protection from long or heavy rains, and in rainy districts thousands of bushels have been lost in some seasons from the adoption of this imperfect mode. Another way, and which is figured and recommended in Low's Elements of Agriculture, consists of setting up a double row, until twice the length of a sheaf, and then placing two sheaves nearly horizontally upon this row, the heads of the covering sheaves being placed together in the middle. These served to protect the lower or upright sheaves in light rains, but are entirely inefficient in heavy showers and indeed when well soaked through, prevent the whole from drying, and which are often spoiled in consequence. A third, and a very effectual way, is to set up about half a dozen sheaves in a round compact form, to bind another very firmly near the lower end, break down the straw equally on all sides from the centre, and then to place the cap, thus formed, inverted, upon the shock. Much time is however required for this mode. A fourth, equally efficacious and secure, and much more expeditious, is represented by the above figure. It is well known and is practised by many farmers, but a large portion are unacquainted with it. It consists simply of a round shock of half a dozen sheaves, which are covered by two others, broken in the middle and laid on in the form of a cross, spreading out the ends so as to form a perfect shield from storms.

## BARN-CELLARS FOR ROOTS.

.....

MR. EDITOR.—When I see a farmer lugging a basket of carrots or roots of any kind, from the house to the barn, a distance perhaps of ten or fifteen rods, I think such an one would know how to appreciate this necessary barn appendage. The plan which I have adopted, is one which for cheapness, the most penurious could not find fault with.

In the first place, in the month of May, when the bay of my barn is empty, I dig a place in the centre of it three and a half feet deep, eight feet wide, and fourteen long. I then take hemlock scantling, four by four, and make a frame eight by fourteen, and place it in the bottom of the cellar which I have dug. Then make another frame of the same dimensions, and place it directly over the other, five feet from the bottom of

the cellar. It will then be eighteen inches above the level of the bay; so that it gives more room for door and passage. Then nail on with large nails, hemlock boards perpendicularly upon the outside of the frames. They will need no nailing at the bottom. Leave sufficient door room next the barn floor. Cover with two inch hemlock plank; then make a passage from the cellar to the floor. It requires two doors in order the more effectually to keep out the frost—one at each end of the passage. This has been found sufficient. Fill in the sides of the cellar with earth pounded hard, to prevent the rats from undermining it; the remainder of the earth may be carried to the yard to mix with the manure heap. Almost every barn will admit of a cellar of the size which I have described. The quantity of hay above and on each side being enough to secure it against the frost.

A SUBSCRIBER.

Vernon Centre, Feb. 7, 1846.

#### STALL FEEDING CATTLE.

.....

A subscriber of Baltimore county, Maryland, asks for information in regard to stall-feeding cattle. This business has been carried on to a greater or less extent in the valley of Connecticut river for many years. In Mr. COLMAN'S Fourth Report on the Agriculture of Massachusetts, the subject is very fully considered; and as our correspondent's inquiry seems particularly directed to the practice of northern farmers, we abstract from the volume referred to, the principal facts embraced in the following article:

Mr. Colman observes that the stall-feeding of cattle is carried on to a large extent in the river towns of the county of Franklin, and to some extent in the hill towns. In the hill towns they are usually fattened on potatoes; the cattle being tied in the barn, and allowed a bushel of well-washed potatoes per day, each, at two or more feedings. They receive no water. A hundred bushels of potatoes, with what hay they will eat, are deemed sufficient to fatten a yoke of oxen, put up in good condition, and the advance in price is deemed a fair equivalent for the value of the potatoes and hay.

Mr. Colman says it is generally thought that cattle fed on potatoes prove as well, that is, have as much tallow, as those fed in any way, and that the beef of such cattle is believed by many to have a peculiar juiciness or sweetness. It is, however, thought they fall away more in driving to market than those fed on hay and corn. Several farmers are in the habit of boiling or steaming the potatoes they give their cattle, and profess to find great advantage in it. It seems however, that experiments have not yet well settled this.

The articles most frequently employed in fattening cattle, are Indian meal, or corn and rye meal mixed, or peas and oats, or oats and corn ground together. In addition to these, many farmers give raw potatoes occasionally. Some farmers of experience are of opinion that potatoes are valuable for fattening cattle in the fall and spring, when the weather is warm, but that they do but little good in cold weather unless they are cooked. The value of potatoes is differently estimated by different individuals; some considering five bushels, others rating four, as equivalent to one bushel of corn. Mr. Colman gives the following examples of fattening with potatoes.

"M. I. approves highly of potatoes as food for fattening stock, and deems four bushels fully equal to one of corn. He gives as many as the cattle will bear, and this varies from one to two bushels per day. He put up a steer in autumn which cost him twenty-six dollars, and killed him in March, weighing one thousand pounds, with eighty-seven pounds of rough tallow. This animal would seldom take more than five pecks per day. The quality of the hay, which cattle consume under these circumstances, he does not deem important; and thinks the straw of grain will do nearly as well as hay.

"He purchased a heifer, two or three years old, at eighteen dollars, and put her in the stall in November.

She would have been, (had she lived,) three years old in six weeks from the time she was killed. When dressed, she weighed nine hundred and ninety-four pounds, and had one hundred and seventeen pounds of rough tallow. She was fed exclusively upon potatoes and hay, and eat usually one bushel and a half per day; she was sometimes induced to eat two bushels per day."

The use of succulent vegetables, excepting potatoes, does not seem to be common in fattening cattle in Massachusetts. The opinion was expressed to Mr. Colman by one farmer of large experience, that the common English or flat turnip is of but little value for this purpose. The cattle are said to appear well and in fine condition when fed on turneps, but yielded very little tallow. This opinion is not at all singular, but is frequently expressed; though, as Mr. Colman observes, it is likely that the experiment of fattening with turneps has seldom, if ever been fairly tried in this part of the country.

The course of feeding as practised by one farmer whose example is quoted, is to bring the cattle to the stall about the 20th of November; then to begin feeding them with half a bushel of potatoes and four quarts of meal each per day. After a time he quits feeding with potatoes, and gives only hay and meal, from one peck to nine quarts each per day; and seldom exceeds this quantity.

A mixed provender is generally preferred. Indian meal is commonly chosen for the bases, and meal from peas and oats, or rye, are mixed with it. Oil-cake is highly esteemed, and is often bought even at twenty to twenty-five dollars per ton. It is crushed and then ground fine, in which state it weighs about forty-five pounds to the bushel. A good provender consists of one-half of this oil-meal, a quarter oats and a quarter corn, ground together, and the whole well mixed when given to the cattle. Mr. Colman states that flax-seed jelly is sometimes used, and with excellent advantage—he used himself, and highly approves it. He quotes the following mode of preparing it:

"To seven parts of water, let one part of linseed be put for forty-eight hours; then boil it slowly for two hours, gently stirring the whole lest it should burn. Afterwards it ought to be cooled in tubs and mixed with meal, bran, or oat chaff, [hay,] in the proportion of one bushel of hay to the jelly produced by one quart of linseed, well mashed together. This quantity given daily with other food will forward cattle rapidly, but it must be increased when they are intended to be completely fattened."

Mr. Colman remarks that the jelly does not supercede the use of meal, but is best mixed with it; and it is believed no article according to its cost, can be used with greater advantage for this object, and that none is more nutritive.\*

To obtain the greatest benefit of the food eaten, the utmost regularity should be observed in feeding. The quantity given at one time, should be as nearly that which the animal can eat with a good appetite, as possible; and the meals should be given regularly at stated intervals. It is believed that cattle kept constantly

\* Since the above was written, we have met in a foreign paper, an account of a mode of fattening cattle with flax-seed, which was lately communicated to Prof. Johnston, and by him read before the Ag. Chemistry Association. The mode of making and using the article is described as follows:—

"The linseed is crushed and boiled with water for two hours; when hot it is mixed with meal and cut straw. 2 lbs. of linseed, 5 lbs. meal, and 9 lbs. straw, for each beast, a day, given at twice, two hours after mixing, with 70 lbs. of the best turneps, divided into two meals. It is quite wonderful to see how fast the cattle feed, [fatten] and how well the holding stock do, the latter having about half the quantity of linseed and meal."

A correspondent of the *Agricultural Gazette*, who uses linseed for fattening cattle, gives the following as the daily allowance to each animal:

A mash composed of 4 lbs. of barley meal, 2 lbs. linseed, dissolved in boiling water, and a small portion of a sheaf of oats chopped. This mash to be divided into two parts, and given twice a day; 7 stones, [56 lbs.] turneps, divided into two parts, and given three times a day; dry straw is always in the rack, of which a beast may eat as much as he pleases.



in the stall, and in such a temperature that a moderate perspiration is constantly going on, thrive faster than those which are allowed to run in yards, and have shelter under sheds. At all events the cattle should be made as comfortable as possible, as quietude conduces much to the secretion of fat.

It is usual to feed first in the morning with hay, and at seven o'clock give them one-half of the provender or meal allowed for the day, after which they are watered, either in the stall or are turned into the yard to drink at a trough. Then tied again in their stalls and fed with what hay or straw they will eat till seven in the evening, when the other half of their day's allowance is given them. If their food is chiefly potatoes or other succulent vegetables, they will require no water—indeed if they are each fed with a bushel of vegetables per day, considerable meal, say four quarts to each animal, may be given in addition, without generally exciting thirst.

As to the kind of stock most proper to be selected for fattening, farmers are not fully agreed, some preferring to buy oxen from 4 to 6 years old, and others steers from 2 to 3 years old. Some of the best farmers to whom Mr. Colman refers, prefer raising their own cattle, as on the whole most profitable, and to this Mr. C. also agrees. But whatever the age of the cattle chosen, all observing farmers agree, that small-boned, medium-sized animals, of a symmetrical form, and with a skin which possesses what is technically called the *right feel*, will fatten most profitably. Mr. Colman quotes from an English writer an excellent description of an ox best suited to the stall, which we think may with advantage be inserted here.

"A well shaped ox should have a small head, large full eyes, with a placid countenance, as indicating docility, and a consequent disposition to get fat; a fine muzzle and open nostrils; the throat should be clean, showing a protuberance of fat under the root of the tongue; long in the neck, but wide and deep in the shoulders; the back should be broad and straight near to the setting on of the tail, with the rump-points fat and coming well up to it; the barrel should be round, wide across the loins, and the girth deep behind the shoulders, with the space between the hip-bone and the first rib very small; the fore legs should be short and wide apart, so as to present a broad appearance to the chest, and the hind legs should be well shut in the twist, the seam in the middle of which should be well filled, and the flanks should be full and heavy. A form such as this, is not only the best for affording the greatest weight, but will also be generally found to lay the flesh upon the prime parts, to produce the least quantity of offal, with such a quantity of tallow as, emphatically speaking in the butcher's phrase, will cause the animal to die well."

The author of the above remarks observes, that they are not the only marks which indicate a propensity to fatten, and concludes by stating that—"the state of the hide and flesh is of the first importance, as the essential property of *handling well*."

As to the *profit* of stall-feeding, it is obvious that they must depend on various contingencies; as the value of the articles consumed as food, the price of beef in the market, the skill and economy practised in feeding, &c., &c. Mr. Colman gives many examples where an accurate account of all the expense was kept and compared with the amount received for the animals when sold, showing the profit or loss. In nearly every case, the balance exhibits a loss against the cattle. It should be observed, however, that the articles consumed by the cattle are estimated at the current prices. This is deserving some consideration. As Mr. C. well remarks, "these articles are high, because farmers are not willing to sell; or rather they have not the articles to sell because they require them for the purpose of fattening their cattle. If the farmers should choose, instead of fattening their cattle, to sell their hay and corn, the supply would greatly reduce the price; and therefore, in the estimation of the cost of fattening cattle, these articles should be charged at the prices they would bear if cattle were not fattened. The account then would present a different aspect." Another

consideration of great importance should be borne in mind, and that is the advantage of consuming the produce of the farm upon the farm, and thus keeping up or increasing its fertility.

In relation to the adoption of some system by which better returns in fattening cattle might be realized, Mr. Colman observes—"It has been supposed that farmers, by going extensively into the cultivation of esculent roots, such as carrots, ruta-bagas, parsneps, or mangel-wurtzel, could fatten cattle to much more advantage, or rather at much less expense than on hay or corn. On this subject we want light, and that which springs from actual and intelligent experience. My belief is, that for the fattening of cattle, when the coarse fodder is well saved, few crops are more profitable to the farmer than a crop of Indian corn at the rate of seventy-five bushels to the acre. Next to corn, potatoes at the rate of four hundred bushels per acre, would be a profitable crop." In the number of bushels which may be produced on an acre, he admits that common turneps, ruta-baga, or mangel-wurtzel, may exceed potatoes; but he thinks "more nutritive matter may be obtained from one hundred bushels of potatoes, than from two hundred of common turneps." He deems the ruta-baga and mangel-wurtzel superior to the common turnep, but still much inferior to the best potatoes. "An experienced farmer," says Mr. Colman, "is of opinion that a hundred bushels of potatoes will fatten an ox. Another says, that he allows twenty-five bushels of corn to fatten an ox, and but little hay will be required. A very good farmer in Charlemont, speaks very strongly in favor of potatoes for fattening cattle. A cow fatted by him on potatoes, showed one hundred pounds of tallow. The experience of many farmers confirms this estimate of their value. Yet one of the best feeders in Deerfield disapproves the use of them. I believe this, however, to be more the effect of prejudice than careful experience."

As to cooking food for cattle, Mr. Colman observes, that but few trials had been made within his knowledge, and these not sufficiently exact to lead to confident conclusions. "One farmer in Coleraine is in favor of cooking his potatoes for stock. The experiments of another farmer in Deerfield, as to cooking vegetables of different kinds, and Indian meal, satisfied him that the advantages, if any, derived from it, were not an equivalent for the increased trouble and expense. Some very exact experiments made in Scotland, in relation to this subject, lead to the same conclusions."

In relation to the gain of fattening cattle, two pounds per day, live weight, is considered good. The largest gain mentioned in Mr. Colman's report, is three pounds per day. To give this gain, the animal is supposed to require one peck of corn-meal, or its equivalent, and from twenty-five to twenty-eight pounds of hay per day. Assuming this as the basis, it would be easy to ascertain by a calculation of the amount of the food consumed and the flesh gained, reckoned at current prices, whether the animal was paying the owner a profit.

#### PROTECTION AGAINST INSECTS.

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MR. EDITOR.—I have been troubled in cultivating melons, with a small brown grub or maggot, which destroys the root, and the first indication is the withering of the plant. I have succeeded in destroying these in the following manner:—When discovered I apply a strong decoction of tobacco to each plant, pouring it about the roots, and have never known it fail. There is no danger of getting it too strong. R. B. MORRELL.

PAINTING HOUSES.—Paint applied to the exterior of buildings late in autumn or in winter, will endure twice as long as when applied early in summer in hot weather. In the former case it dries slowly, and becomes very hard like a glazed surface, not easily affected afterwards by weather, or worn off by the beating of storms. But in very hot weather, the oil of the paint soaks into the wood at once, as into a sponge, leaving the lead nearly dry and ready to crumble off.

## RADICAL EXCRETION OF PLANTS.

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Several years since the theory was first put forth by M. de Candolle, of Geneva, that "plants possess the property of excreting by their roots substances which are formed in their texture, and which, if retained in them, would be injurious to their healthy growth and development." It was also contended by the same philosopher, that the excretions left in the soil by plants were injurious to the growth of succeeding crops of the same kind; and on this supposed fact, he based the expediency of a rotation in crops.

M. de Candolle's theory has for sometime been generally regarded as unfounded; but as no particular experiments had demonstrated its truth or falsity, the Highland and Agricultural Society of Scotland offered a premium of twenty sovereigns in 1841, for the best essay on the subject based on practical trials and results. This premium was awarded to Mr. Alfred Gyde, who produced a highly interesting and valuable paper, which we find in the March number of the Transactions of the Highland Society.

The points to which Mr. Gyde directed his inquiries, were as follows:—

Do plants, or do they not, during their healthy growth excrete matter from their roots?

If they excrete, is the matter excreted organic or inorganic? What is its composition?

Does the matter excreted by different classes of plants possess properties peculiar to each class? If so what is the peculiar property of each? Is it identical with the sap of the plant, or does it differ?

What is the physiological action of the roots of plants by which excretion takes place?

Have plants the power of excreting by their roots, substances previously absorbed, and which are noxious to them?

Will germination occur, and the growth of plants proceed, after the seeds have been impregnated with noxious matters?

Will seeds germinate and grow in poisoned soils?

Why do plants refuse to grow on some soils, while they grow freely on others?

In order to grow the plants in such a manner that they could at any time be removed, and the roots separated from the soil without their being mutilated or broken, he adopted the following plan. The plants were grown

1. In garden-soil, placed in pots, and plunged in the earth.

2. In pots filled with silicious sand, the growth of the plants being promoted by waterings with weak liquid manure.

3. In pots filled with silicious sand which had been repeatedly washed in boiling water.

4. In pots filled with damp moss.

5. In pots filled with coarsely powdered charcoal.

The plants grown were wheat, barley, oats, rye, vetches, kidney-beans, beans, peas, cabbages, mustard, and turneps.

To ascertain whether matter is or is not excreted by the roots of plants, Mr. Gyde caused the plants to be removed from the pots in which they had grown, and had them carefully and thoroughly washed in a gentle stream of water,—“after being carefully dried on folds of filtering paper, they were placed in glasses containing distilled water, which had been exposed to the atmosphere for some days. In this situation the roots were carefully excluded from the light, and kept at as uniform a temperature of about 55 degrees as practicable, the green portions of the plant being fully exposed to the action of light and air, the water in the vessels being renewed as it diminished, from absorption by the plant and evaporation from the surface.

From several tables which are given, the particulars of the different experiments are seen. In relation to the results, Mr. Gyde observes:

“From the above experiment it will be seen that the roots of plants impart to water a portion of soluble matter or excretion, and that this excretion appears to

be yielded in greater abundance by plants having large and spongy extremities to their roots, as beans, than by those possessed of fine, thread-like extremities, as is the case with wheat or cabbages. It will also be observed that in some instances the water has acquired an odor which is inseparable on the application of heat, and may be distilled over when the water is placed in a retort; the plants which impart odor to water, as the bean and cabbage, are also characterized by emitting a similar odor from their leaves. Plants when in bloom were observed to emit a larger portion of excretion than when young or when ripening their seeds; but the amount of excretion obtained even when many plants were operated upon, was very trifling, seldom more than a grain in weight when dry.”

To ascertain whether the soil which had produced the plants contained any excretion, the following experiment was tried.

“Sand, which had been well washed with boiling water was planted with beans and peas; these plants were supplied with distilled water, and placed under the most favorable circumstances for healthy vegetation. After they had grown in the sand three weeks, they were removed, and the sand washed with distilled water, filtered, and on evaporation, yielded a portion of both organic and inorganic matter, in every respect similar to that obtained by the immersion of the roots in water. Plants of the same kinds to those used in the former experiments were cut from their stems, the lower extremities of which were plunged in distilled water, so that the descending sap, which it was presumed would escape, might be examined and compared with the radical excretions from the same kinds of plants, and it was found that in each instance similar results were obtained on evaporation of the water in which the cut plants had been immersed as those from the water in which the roots of similar plants had excreted. Hence we may conclude that the matter obtained from the roots of plants, or radical excretion, is similar to the sap of the plant from which it was excreted.”

Mr. Gyde's observations in regard to the physiological action of the roots of plants, and the phenomena attending the circulation of the sap, are worthy particular attention.

“The roots of plants are described as the downward prolongation of the stem, as the trunk and branches are the upward development into the air—the spongioles and extremities of the roots being the newest formed and extending portions, and that by these spongioles, fluids are taken up from the soil and conveyed to the circulation of the plants.

“The fluids thus absorbed are carried by the vessels of the most recently formed wood to the leaves, where, after undergoing certain changes during its exposure to the action of air and light, by which much water is given off by evaporation, the elaborated sap is returned by another set of vessels situated in the inner bark of the tree, to the roots, supplying during its descent, those constituents necessary for the healthy secretions of the plant.

“The sap having arrived in the roots, the new fluid is added to it from the soil, and the ascent again commences by the vessels of the new wood, this action continually taking place during the life of the tree, but progressing more rapidly at one season of the year than at another.

“Many and ingenious are the theories which have been formed to explain the ascent of the sap. Of these, that which was first pointed out by Detrouchet appears most probable, and is now generally received by physiologists. Detrouchet found that if, into a glass tube, having one end covered with animal membrane tightly secured over it, a strong solution of salt in water or sugar in water be poured, and the end covered with membrane, be immersed in a vessel containing water that within a few hours the liquid in the tube will be found to have risen several feet. This ascent of the liquid in the tube being caused by a portion of the water from the outside of the tube passing through the membrane and mixing with the solution in the tube; and at the same time a portion of the solution will be found mixed with



the water outside the tube—this action continuing until both liquids become of the same specific gravity; the former of these actions, Detrochet terms *endosmose*, and the latter *exosmose*, and he attributes the action to the effect of electricity.

"If we allow the liquid within the tube to represent the sap of the tree—the membrane covering the tube to represent the spongioles of the roots—and the water in which the lower portion of the tube is immersed, the water of the soil, we have a combination of circumstances which approach the state of the growing tree, the sap in the tree always being of greater specific gravity than the water surrounding the roots. Under these circumstances, there is every probability that a similar action to the one just described is continually going on in the plant during the active period of its growth—water would be taken into the plant through the spongioles of the roots by *endosmose*, and a portion of the sap would escape into the soil by *exosmose*; the sap consisting of both organic and inorganic matter in solution in water, and would ever be of greater specific gravity than the water in the soil, arising from the exhalation of water continually going on from the leaves, and consequent concentration of the sap prior to its descent."

To demonstrate how far the action above described actually takes place in the living plant, Mr. Gyde made several experiments:—

"Several funnel-shaped glasses were prepared, which would hold about 3 fluid ounces of liquid each, and present  $2\frac{1}{2}$  square inches of membranous substance, through which *endosmose* might take place; these glasses were filled with saline solutions, and also solutions of organic matter, and plants cut from their roots immersed in them through the upper opening, where they were secured by collars of Indian rubber, the portion covered with membrane being immersed in water. In each instance the saline solutions were rapidly absorbed by the plants, they were detected in all parts of their structure, and a portion of the solutions was found to have passed by *exosmose* into the water in which the membrane was placed."

We must pass over the details of many of the experiments which are given by Mr. Gyde. It is proper however to observe in passing, that he ascertained that plants may be made to absorb various metallic salts which are noxious to their growth—such as solutions of zinc, copper, mercury, arsenic, lead, iron, barytes, &c.,—the effect of which was to destroy the plant, sooner or later; showing that plants do not possess the power of excreting noxious substances previously taken into their structure, or at least, that they have not this power in a sufficient degree to preserve their lives when placed in a situation to absorb these substances. He shows that excretions of plants in a healthy or natural condition, are not prejudicial to succeeding crops. He cites an example of an acre of ground having produced an average of 32 bushels of wheat per acre for 12 consecutive years—the ground having only "an occasional light dressing of manure, the stubble generally being burned and the ashes spread on the land."

The inferences to which Mr. Gyde arrives from all his experiments and observations are chiefly the following:

"1. That the commonly cultivated plants of the natural orders Graminæ, Leguminosæ, and Crucifæræ, excrete by their roots soluble matters.

"2. That the excretions consist of both organic and inorganic matters.

"3. That the quantity of excretion thrown off by any single plant is very small, and excretion can only be satisfactorily examined when collected from a number of plants.

"4. That plants absorb metallic salts when in solution in water, and that they quickly die unless the solutions are very largely diluted.

"5. That seeds impregnated with poisonous substances may germinate if the quantity of the poison be very minute, but in most cases the seeds perish.

"6. That plants are not injured by their excretion

being reabsorbed into their structure as was supposed by M. de Candolle.

"7. That the necessity for a rotation of crops arises from the soil in most instances being unable to supply those earths and saline constituents required by plants."

#### WIND POWER—NEW INVENTION.

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MR. TUCKER.—I would wish to bring to the notice of the public, through the medium of the *Cultivator*, an important improvement in the wind-wheel, a model of which, you may recollect, was exhibited at my hotel last winter, by Dr. Bridgman, of Cabotville, Mass.

It is believed that by the aid of this improvement, wind-power may be used to advantage in many situations where water-power or nothing better can be had.

The great objection generally to a machine being worked by wind, is the unsteadiness of the power, varying from a stand-still to the greatest velocity, at which speed it is liable to injure any machinery attached to it.

A stationary power which can be applied to the various operations of the farm and out-buildings, would be a desideratum with every farmer whose business is on any thing like an enlarged scale.

There are a great many operations on the farm which may be economically performed by a stationary power; that is, by water, by steam, by horses or by wind. The same power that is applied to the threshing of grain, cutting fodder, or the grinding of apples, may, if properly adjusted, and with a trifling additional expense, be applied to the crushing of grain for farm stock, or even for grinding for family use—to the sawing of wood, splitting of boards, to the pumping of water, turning of the grindstone, and various other stationary uses. A friend on Staten Island erected a wind-mill on the old and common principle, which he applied to fourteen different purposes.

The following description of one of these wheels, now in successful operation, I clip from a *Chickopee* paper. By publishing it, you will not only confer a favor on the ingenious inventor and proprietor, but aid the farmer and mechanic.

C. N. BEMENT.

Albany, June, 1846.

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"On Friday last we visited a new, and we think, highly valuable invention of Mr. A. Judd, of this village, called a "CENTRIFUGAL WIND-WHEEL." For simplicity of construction and efficiency of action, it exceeds anything in the shape of a windmill, that we have ever seen. The principles on which it is constructed are entirely new; and the inventor, in conjunction with Dr. J. B. Bridgman, who as joint proprietor, have obtained letters patent for the invention. The wheel resembles a common overshot or breast water-wheel, except its motion is horizontal; and is propelled by the application of wind upon the inner surface. By this application, the entire circumference of the wheel is kept constantly before the wind, the whole force of which is brought to bear square upon the lever, producing a power three or four times as great as any other wind-wheel in operation. What adds greatly to the value of this wheel is the fact that it is enclosed in a building, and consequently entirely excluded from the weather. This, together with the simplicity of its construction, must extend its durability almost beyond the power of calculation. The building is covered with strips of board, about a foot wide, hung upon pivots, and connected with rods on the inner side like common Venetian window-shutters, and can be opened and shut at pleasure. By this arrangement, any quantity of wind can be admitted and excluded; and the wheel is as easily managed in a gale of wind as in a breeze; and is as completely under the control of the operator, as any water-power. The building is two and a half stories high, the wheel being located in the upper half story. By opening the shutters to the windward, in the second story, and to the leeward in the upper half story, the wheel is set in motion by the pas-

sage of the wind up through the centre of the wheel pressing upon the inner surface of the buckets. The wheel which the patentee has erected, is a temporary one, merely to exemplify the principles, fourteen feet in diameter, and seven feet high; and produces from one to five horse power, according to the strength of the wind, and propels a grindstone, a circular saw, and he intends to add a pair of mill-stones for grinding provender. It operates admirably.

What constitutes the great value of this novel and highly ingenious invention, is the cheapness of its construction, and its consequent adaptation to the almost infinite variety of objects for which power is required. It can be constructed of any size, to produce from one dog power to a hundred horse power; and from its simplicity and consequent ease of management, is brought within the reach of every farmer and mechanic. By its aid, the farmer may thresh his grain, saw his wood, draw water for his stock, cut his feed, grind his provender, churn his butter, grind his axes and scythes, &c., &c. The mechanic, by its aid, can propel his planing machines, his turning lathe, his trip hammer, his circular saw, grind his bark, split his leather, saw his shingles, grind his tools, slit out his stuff, saw out his felloes, &c., &c., &c.

In fact, we can see no reason why it is not destined to become one of the most valuable inventions of this inventive age. And we sincerely hope and trust, that, the ingenious inventor and his enterprising partner, Dr. Bridgman, will receive that ample remuneration which is ever due, though not always awarded to genius and enterprise."

#### SEASONABLE HINTS TO ORCHARDISTS.

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THERE are some points, too often neglected, and of very great importance, of which some will need only reminding, to put in practice. Nothing is more essential at this season of the year, for newly transplanted trees, and indeed for all fruit trees for several years after setting out, than *thorough, clean, deep, and wide* cultivation. A hill of corn will thrive as well planted in a thick grassy field or meadow, or in the midst of a field of wheat, as a fruit tree. Potatoes, beets, and some other low hoed crops, may occupy the ground where young fruit trees stand, if they are kept well hoed; but if such crops have not been thus planted, spare no time in rendering the soil about the trees deep and mellow, for several feet on each side—a little circle only three or four feet in diameter will not do. Hundreds of experiments have proved, that trees in a field where the *whole soil* is kept as fine and mellow as an ash-heap, will grow from *ten to twenty* times as fast as those which are neglected and become choked with grass or weeds. The fruit on large as well as on small trees, will also be very much improved by keeping the ground mellow. An owner of a fruit orchard which had become grown up with grass, said that by the accidental rooting up of the grass by the pigs, his fruit on one tree was so much improved in size and flavor, that he should scarcely have known the kind. An old peach orchard, a few years since, was mostly occupied with a crop of peas; but one row was planted with a hoed crop, the consequence of which was, the latter row was conspicuously marked out by its darker green and more thrifty appearance, at a distance of half a mile.

Another matter, which may be now attended to with propriety and economy, is the budding (inoculation) of apple trees. Many owners of orchards resort only to grafting, and pay perhaps some itinerant grafter a high price for mutilating their trees. Buds may be easily inserted, even by a boy ten years old, if the branches in which they are set are vigorous and thrifty, so that the bark will peel freely; in this case, they will scarcely, in a single instance fail; but heading down and thinning out must not be forgotten the next spring. Where large trees have been grafted last spring, and the grafts have failed, numerous young and fine shoots in most cases spring from the upper extremity of the trunk; these will be in fine order this summer for budding. A

bud will scarcely ever live in a slow-growing or stunted branch or stock; but in a thrifty one, on which the bark peels freely for the insertion of the bud, failure will hardly ever take place, even if performed by a novice. Early in 8th month (August) is usually the best time for budding apples.

Those who have pear trees should keep a look-out for *fire-blight*, and the very day that the first branch turns black from its effects, let it be cut off at once two or three feet below the affected parts, and so continue as long as any part of the tree continues to be affected. It is better to cut away three quarters of the tree, than to lose the whole by neglect. There are many failures from a want of promptness and boldness in making the necessary excisions. A fruit cultivator who has a large orchard of pear trees, has suffered four different times within the last twenty years from the attacks of the fire-blight, and as often put a stop to its ravages by a quick and thorough application of this remedy; though some of his fine trees had quite a mutilated appearance before he had done with them. Burning the lopped branches, is considered by many as all-essential, and can do no hurt in any case.

The *black knot* on the plum tree, is also cured in the same way, if the remedy is promptly and incessantly applied; but as it does not extend over the tree so rapidly as is often the case with fire-blight, little more than the part immediately affected need be cut away.

#### AGRICULTURAL GEOLOGY.

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MR. EDITOR.—In the Geology of the fourth district of New-York, the red marl of the Medina sandstone, is said to give color, and in some instances, to constitute a large proportion of soils covering that rock. The country between the Ridge road and Lake Ontario, is spoken of. I wish to know what crops are generally grown there; or to what crop the soil is most adapted. It prevails in many parts of England, and bordering on Wales, where it is considered generally good for wheat, but producing barley in greater perfection. I remember a locality in Shropshire of this nature, and it was particularly subject to the growth of wild poppy. I mention this circumstance because I think the nature of soils, in fact, the geology of a country, may be known from the plants most natural to them.

I will trespass one moment more upon your valuable time. Professor Emmons in his Geology of the second district of New-York, says—"It is the opinion of many of the best informed agriculturists, that lime is essential to fertility. If this view is correct, then no reason can be offered why the unburnt limestone should not be useful, for the state in which it exists in all soils must be that of carbonate. The scrapings of roads, in England, where limestone was the material used in mending them, has invariably been applied to land as manure, generally, I believe, under the impression of the unthinking, that the virtue was that of common soil impregnated with horse dung. The first time I was struck with the use of pulverized limestone as a manure, was when in Gloucestershire, where I enquired of a farmer the effect of the road scrapings; he said it was almost equivalent to lime. The limestone was somewhat argillaceous, and consequently softer than the Trenton limestone. Has the application of road-scrapings from a macadamized road, where the material was Trenton limestone, come under your notice? If so, was the effect similar to that of an application of lime? I mean in an increase, in the plumpness of the seed, and not in the growth of straw. C. T. ALBOT.

Stokes, Oneida Co., 1846.

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NOTE.—We have called on Prof. HALL, who surveyed the 4th district of this state. He states that the "country between the Ridge road and Lake Ontario" is very good for wheat and Indian corn, which are the principal crops grown there. We have also conversed with Prof. EMMONS in relation to the use of limestone in the manner mentioned by our correspondent. We



cannot ascertain that the Trenton limestone has been used in any way as manure, unless previously burnt; but it seems reasonable that the effect of road-scrappings from this material would be similar to lime, allowing for the effect of the animal manure which would be mixed with the scrapings.

#### FRENCH NAMES OF FRUITS.

THE name, merely, of a fruit may seem a matter of comparatively small importance; but one which is pronounced fifty times a year, by ten thousand cultivators, should be as little troublesome as possible. Hence, while the *quality* of the fruit is the main point, a convenient name should not be overlooked.

It has been remarked that the English language is "rich with the spoils" of all other languages; a motley mixture of spellings and sounds, and a labyrinth of rules. This difficulty will not be diminished by the free introduction of the foreign names of fruits. Every man who owns land should cultivate the best varieties, and as a consequence, he must use the names; but to insist that every cultivator should know how to pronounce French, is asking too much. If we pronounce such names as *Drap d'Or*, *Figue de Naples*, or *Pourprée Hative*, as in French, three quarters of our intelligent fruit cultivators will not understand us; and if we give them the English sound, the effect is like horrible jargon on the ears of one who is accustomed to the true sound. Other names do better, as *Passe Colmar*, *Reine Caroline*, *Florelle*, and *Belle Lucrative*, where the French and obvious English pronunciation are nearly the same; but such cases are rare.

It would therefore seem desirable in all practicable cases to give the English translation; for instance, instead of "*Figue de Naples*," to say *Fig of Naples*; *Flemish Beauty* instead of "*Belle de Flanders*;" *Early Purple*, instead of "*Pourprée Hative*;" *Skinless* for "*Sanspeau*;" *Early Rousselet* for "*Rousselet Hatiff*;" and *Double Mountain*, instead of "*Double Montagne*." Every person of taste will of course avoid the union of French and English in the same name, which would be too much like the mixed phrase we used to hear from the schoolboys, "*Je ne know pas*;" or the "*Gryllus grassus*" of Eaton's Zoological Text Book.

Such names however as *Brown Beurré* and *Summer Bonchretien*, can be hardly regarded as objectionable, as these seem to be quite Anglicised, and indeed no other names for these fruits are commonly known. Hence also we would agree with Lindley, Thompson, and Downing, in saying "*Summer Franc Real*," instead of "*Franc Real d'Eté*;" and "*Spanish Bonchretien*," instead of "*Bon Chretien d'Espagne*."

There are some foreign names, so well known and so exclusively used, that it may be entirely useless to propose any other; as *Passe Colmar*, *Belle Bonne*, *Bezi de la Motte*, and *Beurré d'Aremberg*.

Downing very properly follows Lindley, and rejects Thompson, in giving the names *Henry the Fourth*, and *White Winter Calville*, of the former,—instead of *Henri Quatre* and *Calville Blanche d'Hiver*, of the latter. Downing has in nearly all cases, however, followed the authority of Thompson, although the latter appears to have laid down no fixed rule in the use of English and French names, but has done it indiscriminately. Hence we find in "*The Fruits and Fruit Trees of America*," that Thompson is followed in the adoption of the names *Summer Bonchretien*, instead of *Bon Chretien d'Eté*; *Summer St. Germain*, instead of *St. Germain d'Eté*; *Charles of Austria*, instead of *Charles d'Autriche*; *Gray Doyenne*, instead of *Doyenné Gris*; and *Winter Nelis*, instead of *Nelis d'Hiver*, on the one hand; and *Bergamotte Suisse*, instead of *Swiss Bergamot*, as by Lindley; *Figue de Naples*, instead of *Fig of Naples*, as by Manning; and *Bergamotte d'Holland*, instead of *Holland Bergamot* of Lindley, on the other. Uniformity, at least, should be sought.

While we have an especial dislike to the taste, or rather want of taste, which inclines to the rejection of every thing except the vulgar and unrefined, we have

a strong aversion to another disposition, of straining at a modish style. The English is a very respectable language in the main, and it appears to be well adapted to the use of those who speak it; and we should be glad to see it preserved in as pure a state as possible, even in the apparently insignificant matter perhaps, of giving names to varieties of fruit. Some of the suggestions already made may be erroneous, but our principal object is to invite the attention of writers on fruits, to this subject.

#### DURHAMS vs. NATIVES.

L. TUCKER, ESQ.—In perusing the June number of the *Cultivator*, my attention was drawn to some editorial strictures, on page 178, in relation to the remarks of Mr. Buckminster, and other gentlemen who took part in the discussions at the weekly agricultural meetings at Boston, the past winter, and which have been reported in many of the papers published in that city.

Permit me to premise by remarking that, from the well-known high character and standing of the gentlemen who took part in these discussions, I do not entertain a particle of doubt that their object was to elicit and diffuse what they considered to be useful information among the agricultural community, as to the relative value of the different breeds of cattle for dairy purposes. The Durhams, Herefords, Devons, Ayrshires, and Natives, have each their advocates; yet discussions upon the value of these different breeds of cattle for dairy purposes, can be of little or no use to the public, unless predicated upon well established and reliable facts. Without this, discussion may continue for a century, and at the end of that time, the real merits of the question will remain in the same mystery and uncertainty as at its commencement.

In the discussions above referred to, one of the gentlemen, Mr. Buckminster, is reported to have said—"he was somewhat prejudiced against the Durham breed of cattle. He had taken much pains to know what was their product in milk and butter. He had invited owners of such cattle to show the yield of their dairies, and though he had found instances of very good cows of that breed, he was bound to say, that generally, they were not equal to the native cattle of the country."

From these remarks it would seem, that the owners of Durham cattle have declined comparison, and from this statement it might be inferred that they lacked confidence in their dairy qualities. This should not be so, as the agriculturists are deeply interested in establishing this point; and all who are the friends of this great branch of national industry should be willing to contribute to its prosperity, however it may affect their private interests.

The writer of this is the owner of a herd of Durhams of about forty head, young and old, and is willing, however it may affect his interest, to submit their dairy qualities to a fair test. He has now on his farm eighteen cows and heifers, a part of which are in milk, and the remainder will calve in the course of the summer. He can spare from other purposes, five of them to test their qualities in this respect in comparison with any other breed. He therefore accepts the offer of Mr. Buckminster on the following conditions, viz:

Any individual now the owner of a herd of not exceeding twenty cows, in milk and to be in milk during the present summer, may select from that number five cows, and the writer will select from his eighteen a like number to be put on trial in the course of the summer for thirty successive days; the cows to run in pastures, and to have no other feed during the trial than pasture, nor for twenty days previous to being put on trial. The milk drawn from the cows on any one day of the first and last weeks of trial, to be measured in a sealed wine quart measure, and also to be weighed; the quantity of milk so drawn in these two days to be stated in quarts and pounds, as well as the weight of the butter made in the thirty days, and the result, stating that all these requirements have been complied with, to be verified under the oath of the owners of the cows, and

that of one or two individuals who assisted in milking the cows and making the butter. The statements so made to be sealed on the first day of September next, and one copy to be directed, by mail, or otherwise, to Wm. Buckminster, Esq., Editor of the Boston Ploughman, and another copy to Luther Tucker, Editor of the Albany Cultivator, and by them to be published in their respective papers.

Though the writer has great confidence in the superior combination of excellencies possessed by the Durhams, his opinion is not less favorable in regard to their dairy qualities in particular; but whatever may be the result of the trial in question, it cannot fail to be of service to agriculturists; and hence his inducement to make this offer.

Lest it may be thought that the writer's cattle have received high keep, he would state that his cows were kept during the past winter, on hay at night, and stabled; during the day they were turned into the cattle yard, and fed upon cut cornstalks and straw, and were not fed upon roots. The cows which calved early in the season, were fed a small quantity of shorts or slops for two or three weeks before they were turned into pasture, but since then have received no other food than pasture.

If the proposition herein made is accepted, Mr. Buckminster will have the goodness to inform Mr. Tucker, Editor of the Cultivator, as soon as convenient.

Troy, N. Y., June 8, 1846.

V.

#### BUFFALOES.

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MR. EDITOR—Have any attempts been made in Missouri, or other parts of the United States, to domesticate the American buffalo or bison; and with what success? Can any one give information on this subject?

The buffalo in Europe is bred in Hungary for the same purpose as common cattle. The milk which they give is richer than other milk, and considerable in quantity. One animal yielded 1470 quarts in a year. As beasts of labor, they are very strong, but slow and unmanageable. The flesh of the calves is said to be good, but that of the old cattle, though sold as beef, is very indifferent. The number of these animals kept in Hungary, is said to be 70,000.

The native domestic Hungarian cattle, bear a great resemblance to the wild white species which was formerly, [and is yet kept in a few instances,] in England. They are of a dirty white color, are large, vigorous, and active. Their horns are of a prodigious length, exceeding in this respect, even the Long-Horned breed of Lancashire. The oxen are most excellently adapted to labor, uniting to all the qualities of the ordinary ox, a very superior degree of activity. The cow is perhaps deficient in milk; yet by care in the choice of the best, the quantity given by one has been increased to 2,000 quarts in a year. The cows are kept constantly in the house during the whole year, and are brushed and cleaned daily. Their stalls are kept perfectly neat, and are well constructed.

WM. JENNISON.

Cambridge, Mass., April, 1846.

#### RECENT AMERICAN PATENTS.

Reported for "The Cultivator," by ZENAS C. ROBBINS, Mechanical Engineer, and Agent for procuring Patents, Washington, D. C.

For an improvement in the machine for making bricks; John Simpson, Decatur, Georgia. The nature of the improvement is set forth in the following claim: "Having thus fully described my improved brick-making machine, what I claim therein as new, and desire to secure by letters patent, is the compressing dry clay, or clay in its natural state, into the moulds, by the percussion of heavy beaters, combined and operating with the other parts of my machine."

#### FACTS AND OPINIONS

Condensed from various Exchange Papers.

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FRUIT IN MASSACHUSETTS.—The town which raises the greatest quantity is Wilbraham, Hampden County, amounting to 51,832 bushels. West-Cambridge, next, raises 50,240 bushels. Then follows in course, Danvers, Newbury, Hopkinton, and Roxbury. As far as value is concerned, Brookline stands first, being \$37,840; West Cambridge, \$25,175; Watertown, \$20,000. Nearness to market may affect materially the value of fruit; and fine or very early varieties may sell for ten times as much as ordinary kinds.

COAL TAR FOR FRUIT TRESSES, having been recommended to exclude rabbits, and the peach worm, two correspondents of the Ohio Cultivator state that they have tried it, and that it either destroyed or greatly injured the trees. One ascribes the injury to the great heat produced by the absorption of the sun's rays by the blackened surface.

LICE ON CATTLE.—M. Linley, in the Genesee Farmer, says that the most effectual remedy, which he has found on repeated trial, is to sprinkle sand copiously over every part of the bodies of his calves; to be repeated once a week. The experiment was suggested by the remark, that bulls, which dust themselves by pawing, are never lousy.

WHEAT WEEVIL.—A correspondent of the Boston Cultivator says, that two quarts of rye to each bushel of wheat, is the best remedy for the weevil, the rye heading out a week before the wheat, the fly deposits its eggs in the rye, and the wheat escapes. [We know many slovenly farmers whose wheat fields are plentifully sprinkled with rye; do they ever suffer from the weevil?]

CELLAR FOR ROOTS.—A communication in the Ohio Cultivator contains a description of a good and cheap root cellar, made by digging about three feet deep and of suitable size, the sides walled up to the surface, and a timber roof, covered with earth, to prevent freezing. A door in one end, and a window in the other, admit a free circulation of the air except in the coldest weather, and prevent the heating and stench too often attendant on the storing of the roots in close cellars covered by barns or dwellings.

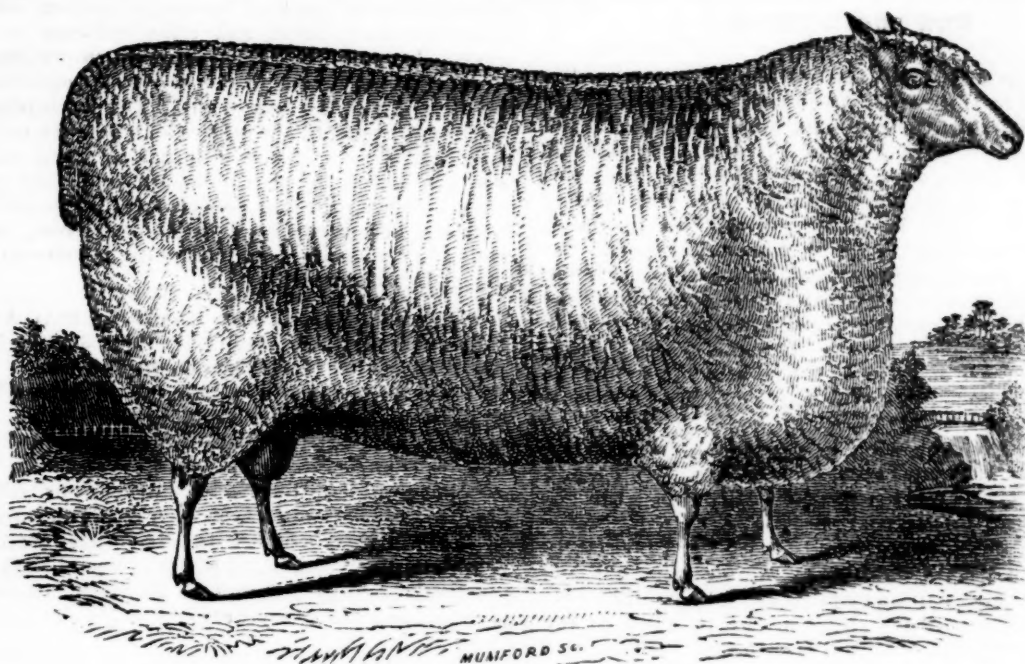
BUGS ON SQUASHES, are repelled by sprinkling a mixture of soot and sulphur on the young plants while wet with dew in the morning.

PRESERVING SWEET POTATOES.—The difficulty of preserving sweet potatoes for seed through winter, in the northern states, is well known. C. Springer, of Ohio, succeeds perfectly by filling a nail keg with alternate layers of wheat chaff and potatoes, and enclosing the whole in a barrel of wheat bran, headed up. This was kept in a cool part of a room, which was not subjected to freezing. When the barrel was filled with wheat chaff instead of bran, the experiment did not succeed so well.

PARSNIPS FOR HOGS.—While carrots appear to be excellent food for horses and cattle, and very poor food for hogs, parsnips are found to be very fine for hogs. A writer in the Prairie Farmer says, that parsnips are preferred by hogs to all other roots, make excellent pork, and will fatten them in six weeks. A hog 22 months old, weighing when alive 750 lbs., was fattened entirely on raw parsnips and sour milk, "and finer meat was never seen."

VARIETIES RUNNING OUT.—A. W. Dodge, of Hamilton, quotes a "striking prediction" of the late John Lowell, made by him in relation to Knight's theory of varieties running out by age. "The Long Reds," says Lowell, "called the River Platte potatoes, have essentially changed their character, and ten years hence we shall no longer see that valuable variety." Not ten years merely, says A. W. Dodge, but more than twenty have now elapsed, and the Long Reds have never ranked higher for yield or quality.





NEW OXFORDSHIRE BUCK.—(Fig. 64.)

THE above is said to be a very correct portrait of a buck of the New Oxfordshire or Improved Cotswold breed, which was imported from England, and is now owned by CLAYTON REYBOLD, Esq., of Delaware city, Del. Mr. REYBOLD is a son of Maj. PHILIP REYBOLD, who has long been widely known as a breeder of superior long-wooled sheep. Accompanying the above cut, we received the following account of

#### THE REYBOLD SHEEP-SHEARING.

The undersigned, present by invitation at the shearing of the Reybold flock of Leicester sheep, in Delaware, on the 18th instant, report as follows:—

The flock is in perfect health and fine condition, evincing great care and consummate judgment in the management, and an improvement in fleece and carcass, that after fifteen years of unwearied diligence in the pursuit of this object, may be supposed to approximate to perfection of form and character. Many of the yearling wethers, as well as the ewes, cut eight pounds of well washed wool, with not a broken fleece in the flock, while a two year old buck, of the Reybold breed, cut eleven pounds and a half of washed wool, of superior quality and fineness.

The imported pure Leicester ewes are splendid specimens of that favorite breed, and cannot, perhaps, be excelled in any country; cutting fleeces of very carefully washed wool, seven and eight pounds each, of fine quality and snowy whiteness.

The imported bucks of the "New Oxfordshire breed," it would be difficult to describe in language that would do them justice. To say that nothing equal to them has ever before been exhibited in this country, would be but faint praise. Indeed, they must be *seen* and *felt*, before they can be *understood*. They were shorn by two old and experienced English shepherds, who declare they never sheared or saw their equals in England, *by a long shot*. By the most careful admeasurement before shearing, they were found to exhibit the following enormous proportions.

- No. 1. 3 feet across the back;  
5 feet from nose to rump;  
7 feet 4½ inches in circumference;  
Live weight, 320 lbs.
- No. 2. 2 feet 2 inches across the back;  
5 feet 2 inches from nose to rump;  
7 feet in circumference;  
Live weight, 272 lbs.

The fleece of No. 1 weighed 13 lbs. of carefully washed wool, white, and of silky texture; while No. 2

cut a fleece of washed wool weighing 17 lbs., measuring nearly a foot in length of superior quality, and which, if it had been left unwashed, would have exhibited a fleece more than 22 lbs. in weight. After shearing, No. 1 was found to measure 5 feet 6 inches in circumference behind the shoulders; but it would be vain to attempt to convey by description, an idea of the enormous width and depth of carcass, or the way in which the masses of fat are laid on upon the sides, breast, back, and rump of the animal. Suffice to say, in the estimation of judges present, the carcass would cut from six to seven inches thick of fat upon the rib, if the sheep were slaughtered at the present time.

The lambs, a cross with these bucks on the largest of the Reybold breed, exhibits a remarkable consanguinity of form and character to their sires, and will, no doubt, rival them, in the hands of their careful and judicious owner, who will leave nothing undone that can be made subservient to his purpose, namely, the creation of a flock of sheep that shall equal those of any quarter of the globe, for wool and carcass combined. We are happy to find that enquiries and orders for bucks are being made of the enterprising owner of this magnificent flock for distant plantations. May success attend him in his patriotic undertaking.

Mr. Clayton Reybold succeeds his father in the ownership of the Reybold flock. His address is Delaware City, Delaware.

J. W. THOMSON, M. D.,  
ISAAC REEVES,  
JAMES PEDDER.

Delaware, 20th May, 1846.

**HIGH PRICE OF PEARS.**—B. V. French states, in reference to pears on quince stocks, that he thought they would not succeed when planted out as standards; but in rich gardens they did well, and some varieties, thus grown, were much improved in size, beauty, and flavor. "One variety in particular, the Duchesse d'Angoulême, succeeded much better when grown on a quince stock. He had seen beautiful specimens of this variety sold at *three dollars a dozen*, some of which were retailed at 50 to 75 cents each."

**WATER FOR SHEEP.**—The Boston Cultivator states the management of E. Bridge, of Promfret, Vt., who some years ago kept a flock without water in winter, as many farmers practise, and they became poor and lost their lambs; while another flock that had water, and the same keeping otherwise, did well. He thinks water necessary in summer.

## NEW PUBLICATIONS.

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**REPORT OF THE COMMISSIONER OF PATENTS.**—We are indebted to Hon. J. H. JOHNSON, and Hon. B. R. WOOD, Members of Congress, for a copy of the Report of the Commissioner of Patents. It is a document of no less than 1376 pages, octavo, exhibiting the operations of the Patent Office during the year ending Dec. 31, 1845. The inventive genius of our people is as conspicuous as ever, judging from this report,—the number of applications for patents during the year being 1246, and the number of caveats during the same time being 452, and the number of patents issued being 502.

We are very glad to see that the Commissioner recommends some addition to the present laws "for the more effectual encouragement and protection of inventors and patentees." He thinks the existing laws afford in fact but little protection to the inventor. His remarks on this head are in our opinion, justly entitled to consideration. The fate which too often befalls the inventor is thus truly depicted:—

"The fruits of his genius and his toils are constantly liable to be wrested from him by the unscrupulous and dishonest, who, too often countenanced by public opinion, are apt to regard the rights of the inventor as the fruits of a monopoly, which it is a merit instead of a wrong to break down and destroy; and the more valuable the invention, the more liable is the patentee to this species of invasion and injury, as there is more inducement held out to its perpetration. The stealthy thief and the midnight burglar are justly regarded as the pests and enemies of society, and are seized and punished by penalties, severe in proportion to the turpitude of their crimes. Yet their depredations are committed on things which are made by law the subjects of property, and which may be acquired by industry or by purchase. The right of the inventor to his invention, in the judgment of all enlightened minds, cannot but be viewed as far more sacred than mere things of property. It is a mental creation, or rather the discovery of a principle, or thing never before known to the world, and may be, and very many inventions have been, productive of countless blessings to the human family, affecting their destinies as individuals and as communities through all time."

The case of ELI WHITNEY is cited, "as one among the innumerable instances in which the fruits of splendid genius have been wrested from their possession by the unprincipled depredator upon patent rights."

The claims for premiums under the head of Agriculture, are stated not to have presented much novelty. Some improvements are said to have been made in wheel plows, and one invention for adjusting the set and draught of plows, so as to make them take at pleasure more or less land, are spoken of as being valuable. We presume the invention alluded to is that of Messrs. RUGGLES, NOURSE & MASON, of Massachusetts, and may be seen affixed to plows lately manufactured by them.

Under the head of *Hydraulics*, seventeen patents have been granted. The "syphon ram" is spoken of. The description undoubtedly refers to Mr. ELLSWORTH'S invention, which has been spoken of in the *Cultivator* as a syphon pump. "The syphon ram," it is said, "has long been known—that is, a ram in which the descent of water in the long leg of the syphon has been made to operate in raising, or rather delivering water above its level. But, so far as known, has been a philosophical toy, and unavailable for practical purposes. By the intervention of a rarified air-chamber, as it is called, in conjunction with the momentum of the descending water in the long leg, the syphon ram has been made an attainment of much practical value, and possesses the advantage of being more simple, cheaper, and less liable to derangement, than many of the devices employed to raise water above the level of its source."

Under the head of *Chemistry*, forty patents have been granted during the year, several of which appear to have been for valuable inventions. A new plan for a refrigerator is spoken of, which is said to differ from

other articles of the kind in two particulars. "Usually, in refrigerators, meat, and other articles to be preserved, become impregnated with mustiness, or unpleasant odors, owing to the moisture from the ice, and the closeness of the apartment. The ice is placed in an apartment by itself, through which passes a coiled tube communicating with the external air, and the apartments in which the provisions are kept. By means of a fan, bellows, or other contrivance, for circulating air, the air is driven through the coiled tube, becoming cooled in its passage, and enters the apartment for provisions in a dry state."

**THE PHRENOLOGICAL AND PHYSIOLOGICAL ALMANAC**, for 1847; by L. N. FOWLER. Published by FOWLERS & WELLS, 131 Nassau-street, New-York.

This is quite a neat little *annual*, of about fifty pages, comprising, besides the usual matter in an almanac, twenty-five or thirty pages of interesting reading on the subjects of phrenology and physiology, with portraits and phrenological descriptions of various individuals. The Messrs. FOWLER are known as the authors of several phrenological works which have been well received by the public. FOWLERS & WELLS publish the *American Phrenological Journal*, a monthly, of thirty-two pages, at one dollar a year.

## DOMESTIC ECONOMY.

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## ORIGINAL RECEIPTS.

**INDIAN PUDDING.**—Boil a quart of milk, and stir in Indian meal till it is nearly as thick as you can stir it with a spoon; then add a tea-spoonful of salt, a cupful of molasses, a tea-spoonful of ginger or ground cinnamon, and cold milk enough to make a thin batter. Boil in a thick bag four hours, or bake the same length of time. Care should be taken that the water does not stop boiling while the pudding is in. Pudding made in this way, with the addition of a quart of chopped sweet apples, and baked from four to six hours, will be found delicious.

**INDIAN CAKES.**—Take, at night, one quart of Indian meal, about half scald it with boiling water; then cool it with cold water, so as not to kill the brewer's yeast, one tea-spoonful of which is to be stirred in, with a tea-spoonful of wheat flour, and a tea-spoonful of salt. Sufficient water must be put in to make a thick batter, and left to rise till morning; then add saleratus enough to sweeten the mass. Two or three eggs, beaten and stirred in is an improvement. Then bake on a hot griddle, and you have breakfast cakes fit for Queen Victoria.

**PRESERVATION OF THE TOMATO.**—Mr. R. B. MORRELL gives us the following:—"The tomato, which has come into universal use, and is deemed a luxury by almost every one, may be preserved for winter use in the following manner. When ripe, let them be prepared by stewing as for the table, and seasoned to the liking; put them in small jars (1 quart) with covers. Over the top put a piece of linen or cotton cloth, which will cover and press the cover on; then pour into the cavity melted mutton tallow, and keep them in a cool dry place in the cellar until required for use. They need only to be warmed to serve them for the table. I use small jars for the reason, that where exposed to the air they soon ferment."

**CONCENTRATED PORTABLE JELLY.**—Letters patent have been secured for a mode of preparing gelatine in such a manner that a small portion of it added to hot water, and turned into moulds to cool, affords at once a palatable jelly, with no other labor of preparation. The jelly is brought into a concentrated state by evaporation in vacuo, having previously all the condiments necessary for flavoring mixed with it; it is then packed in bottles, and is ready for use; the whole making of the jelly being simply the dissolving a small portion of the concentrated jelly in hot water, and suffering the whole to cool.—*Report of Com. of Patents.*





ALBANY, JULY, 1846.

THE HORTICULTURIST,  
AND  
JOURNAL OF RURAL TASTE AND RURAL ART.

A. J. DOWNING, ESQ., EDITOR.

THE first number of the above publication was issued by the publisher of "The Cultivator," on the first of this month. That our readers may the better understand the character of "THE HORTICULTURIST," we publish the Table of Contents:

- I. Introductory Address. By the Editor.
- II. Notes on a few fruits of superior excellence. By the Editor.
- III. Rural Architecture—Designs for Improving an Ordinary Country House. By the Editor.
- IV. The Two New Ornamental Trees—the Paulownia and Deodar Cedar. By the Editor.
- V. The Best Five Winter Pears. By Col. M. P. Wilder, Pres't of the Mass. Hort. Society.
- VI. The American Arbor Vitæ for Screens and Hedges. By A. Saul, Foreman of the Highland Gardens.
- VII. Account of the Origin of the Boston Nectarine. By S. G. Perkins, Esq.
- VIII. A Preventive to the Mildew in the Gooseberry. By New-Jersey.
- IX. Notes on the Black Fig of the Azores—Culture of the Fig under Glass. By John Fisk Allen, Salem, Mass.
- X. How to raise "Giant" Asparagus. By T. B., New-York.
- XI. Climbing and Pole Roses for Hardy Culture. By Rosa, of Philadelphia.
- XII. Fruits in Western New-York—the Northern Spy Apple. By W. R. Smith.
- XIII. Swainstone's Seedling Strawberry. By the Editor.
- XIV. On the Culture of the Laurel. By J. J. Thomas.
- XV. On the Use of Guano. By Long-Island.
- XVI. The Peach Orchards of Delaware. By Dr. J. W. Thompson.
- XVII. The Naturalization of Plants. Translated from the French of M. Neumann.
- XVIII and XIX. Foreign and Domestic Notices.
- XX. Proceedings of Horticultural Societies.

The general character of this new work, will be seen from the above. It may not, however, be amiss to add, that it will, in its future issues, embrace articles on every subject of interest to the lover of rural pursuits, including Rural Architecture, Fruits and Flowers, Shade and Ornamental Trees, Landscape and Ordinary Gardening, &c., &c., thus supplying a place in our periodical literature hitherto without an occupant. It will be published on the first of each month, printed on fine paper, and in the best manner; each number consisting of 48 pages octavo; stitched in handsome covers. Terms—Three dollars a year, payable in advance, with a discount of 20 per cent. to agents.

"THE HORTICULTURIST" will be issued simultaneously with its publication at Albany,—in

Boston.—By JOSEPH BRECK & Co., 51 North Market-street.  
New-York.—By M. H. NEWMAN & Co., Booksellers, 199 Broadway.  
Philadelphia.—By G. ZIEBER & Co., Booksellers.

The work can be obtained at each of the above places on the same terms as of the proprietor at Albany.

Subscribers can also obtain it, free of postage, of the following Agents:

Boston.—Dr. E. Wight, 7 Custom-House-st.  
A. D. Phelps, 124 Washington-st.  
Newburyport.—J. G. Tilton, Bookseller, 23 State-street.  
Providence.—A. A. Stillwell, bookseller.  
Comstock & Page, Depot of the R. I. Hort. Society.  
Worcester, Mass.—Ruggles, Nourse & Mason.  
Springfield, Mass.—H. & J. Brewer, Druggists.  
Hartford, Conn.—Mr. John Olmsted, Merchant.  
New-Haven, Conn.—Geo. N. Seagrave, Seedsman.  
F. Trowbridge, Ag. Warehouse.  
F. H. Pease, Bookseller.  
Syracuse.—Stoddard & Babcock, Booksellers.  
L. W. Hall, Bookseller.  
Auburn.—J. C. Derby & Co., Booksellers.  
Geneva.—G. H. Derby & Co., Booksellers.  
Rochester.—D. M. Dewey, Bookseller.

Buffalo.—T. S. Hawks, Periodical Depot.  
Troy.—Levi Willard, Periodical Depot.  
Hamilton.—S. C. Griggs, Bookseller.  
Rutland, Vt.—David Kirkaldie.  
Cleveland, O.—Fellows & Dewey, Booksellers.  
Cobourg, C. W.—Franklin House, Bookseller.

All the Agents for the Cultivator are respectfully invited to act as Agents for "THE HORTICULTURIST." Specimen numbers will be sent to all who may wish them, together with prospectuses and showbills

## BOSTON AGENCY

FOR

"THE HORTICULTURIST" AND "THE CULTIVATOR."

Mr. BRECK, editor of the *New-England Farmer*, announces in that paper of June 24th, the discontinuance of that work, which has now completed its 24th year. This paper, from its commencement under FESSENDEN, has pursued the "even tenor of its way," with less change and greater steadiness of purpose, than has attended almost any other periodical in the country.

Punctual in its weekly visits, cheerful in its tone, sound and discriminating in its advice, it was always the wise counsellor of the farmer; and we part with its "old familiar face" with sincere regret—regret that we shall receive its visits no more, and regret that, in the rage for new things, it should have been so far forgotten as to afford Mr. Breck, by whom it has been conducted with great judgment, so poor a reward, as to induce him, as a matter of interest, to discontinue its publication.

It will be seen by the following notice of Mr. BRECK, that he has made arrangements with us, to act as publishing agent for our publications at Boston:

"We have entered into an engagement with Luther Tucker, Esq., Proprietor and Editor of the Albany Cultivator, to act as agents for his proposed new work, 'The Horticulturist,' to be edited by A. J. Downing, Esq., and issued monthly; also as agents for 'The Cultivator,' a work too well known to need commendation.

"The Horticulturist will be published simultaneously at Boston and Albany. Subscribers will be supplied with that Journal at \$3 per annum, or with the Cultivator at \$1. As the two periodicals will be distinct in their character, we hope to have the pleasure of enrolling the names of all the patrons of the old New-England Farmer, on the subscription list of each journal.

"To those who have paid in advance, (not a very large class,) we will credit the amount paid to either of the above named works, or refund the money, as may be most acceptable. Those who have paid to Jan. 1st, 1847, will be entitled to one volume of the Cultivator from Jan. 1st, 1846."

## TO CORRESPONDENTS.

COMMUNICATIONS have been received since our last from C. B., C. N. Bement, John W. Lincoln, D. Eastman, N. Longworth, Nelson Wilson, R. Van Wagener, S. B. Buckley, H. F. B. Adrian Bergen, D. T., Zenas C. Robbins, and J. N. Blakesley.

J. H., Liberty, Miss.—We shall be glad to receive the details and results of the experiments you speak of.

We are indebted to Hon. J. H. JOHNSON, Hon. B. R. WOOD, Hon. T. SMITH, and DANIEL GOLD, Esq., for copies of the Annual Report of the Com. of Patents.

To LEWIS F. ALLEN, Esq. Black Rock, for copies of his American Herd Book.

To ———, for Premium List of Washington Co. Ag. Society.

WE tender our thanks to Prof. JAS. F. W. JOHNSTON, of Edingburgh, for a series of pamphlets, embracing the results of investigations into the Nature and Cause of the Potato Disease in Scotland; and also for Parts I, II, and III, of the Proceedings of the Agricultural Chemistry Association of Scotland; the reception of all which, we are happy to acknowledge at the hands of Mr. JOHN P. NORTON.

## MONTHLY NOTICES.

**FINE STRAWBERRIES.**—During a late visit to Mr. WILSON'S garden, in this city, our attention was attracted by the very fine appearance of several beds of strawberries. We learned on inquiry, that most of them were foreign varieties, lately introduced here, and known under the names of *Myatt's Eliza*, *British Queen*, (a seedling of the former,) *Swainstone's Seedling*, *Deptford Pine*, *Elton Pine*, *Princess Royal*, and *Victoria*. Those persons who have for a few years past been familiar with the horticultural periodicals of England, will recollect the high praise which has been given to these kinds in that country. Several of them are certainly splendid—the size very large, the shape perfect, and the flavor excellent. We picked one of the *British Queen* variety which measured fully four inches in circumference, and was of uncommon length. But for hardiness, productiveness, beauty of shape and quality, combined, the preference should perhaps be given to the *Swainstone Seedling* and the *Victoria*.

Besides the above, we saw some very superior American varieties—particularly *Ross's Phoenix*, and the *Iowa*. The former of these, appears to be fully equal, considered in all respects, to any kind we have ever seen. Its size is large, flavor good, and its productiveness unsurpassed. The *Iowa*—a native from the western prairies—has lately been cultivated to considerable extent in the vicinity of Cincinnati, and is, we think, recommended by Mr. LONGWORTH, of that city. It is unquestionably a very hardy and prolific variety. Mr. WILSON will probably be able to spare plants of all these kinds the present season.

We acknowledge the reception of some very fine strawberries of the *Virginia-Scarlet*, and *Hovey's Seedling* varieties from the garden of Prof. HALL; also, a specimen of the *Black or Musk Hautbois*, from the garden of Messrs. E. & E. DORR, of this city.

**THE WHEAT-CROP.**—In some districts of Western New-York, and in some parts of New-Jersey, Pennsylvania, and Maryland, we hear that the Hessian fly has done much damage to the wheat. To what extent this injury is likely to affect the aggregate product of the country, we cannot yet determine. Accounts in general from the western states, speak of the appearance of the crop as favorable, excepting its rankness of growth in some cases, from which rust is feared.

**DUTCHESS COUNTY HORTICULTURAL SOCIETY.**—We have received from RADCLIFF VAN WAGENER, Esq., the list of premiums offered by this society for the exhibition holden at Poughkeepsie on the 18th and 19th of last month. We received no account of the exhibition in time for this number. The list embraced premiums for cherries, apples, strawberries, raspberries, currants, gooseberries; flowers of various kinds, vegetables, &c. D. B. FULLER, Esq., is President; S. B. TROWBRIDGE, Treasurer; and J. H. JACKSON, Secretary. None but members can compete for premiums, but membership is not confined to the county. The terms of membership are one dollar per year, and the exhibition are to be held semi-annually.

**SALE OF MERINOS.**—JAMES L. RANDALL, Esq., of Clay, Onondaga Co., in this state passed through this city not long since, with about forty head of pure Merino sheep, which he purchased in Vermont. The bucks, twenty-four in number, were all obtained of JOHN T. RICH, Esq., of Shoreham, and the ewes were selected from the flocks of Messrs. M. W. C. WRIGHT, L. C. REMEELEE, and — COOK, of the same town. All these flocks are widely known and highly esteemed. Mr. RANDALL'S purchase includes many very superior sheep, and we unhesitatingly pronounce the lot an uncommonly good one.

**IMPORTATION OF SAXON SHEEP.**—We are pleased to learn that Mr. S. C. SCOVILLE, of Salisbury, Ct., has lately imported a lot of very superior Saxon sheep, consisting of four bucks and four ewes. We have not yet seen them, but are informed that they are of larger

size than any Saxons before brought to this country. The weight of their fleeces is said to be proportionate to their size, while the wool lacks nothing in fineness, but is fully equal in this respect to any of the noted race to which they belong. Their shape and appearance is said to indicate good constitution. We presume they will be the means of decidedly improving the sheep-stock of this country, and we hope Mr. SCOVILLE will be remunerated for the heavy cost he has incurred in their introduction.

**POTATO DISEASE.**—The idea is entertained to some extent, that the potato disease is caused by a "deficiency of alkalies in the soil," and that the application of these would be a preventive. B. F. WILBUR, in the *Massachusetts Plowman*, states that he planted last year, a piece of newly cleared ground with potatoes. Piles of logs had been burned off leaving much ashes in the places of them. He says—"Wherever these piles were burned off, the potatoes rotted most."

**THE SEVENTEEN YEARS LOCUST, (*Cicada septendecim*).**—This curious insect has made its appearance this season in several districts west of the Alleghanies. We have seen no notice of its having been seen on the east side of the mountains, but have heard of its presence in Western Pennsylvania, Western Virginia, and South-eastern Ohio. They seem to excite some alarm in some instances—the inhabitants fearing that they will eat up vegetation. This fear is groundless; they eat nothing while in the winged state, and only do damage by perforating the twigs of young trees for the purpose of depositing their eggs. It is a singular fact, that though these insects appear at the same place in the winged state only at exact intervals of seventeen years, yet they do not appear in all districts at the same time, or in the same season. Thus their appearance in this section and in parts of New-Jersey occurred in 1843, and in other sections last season. How can this variation in their appearance be accounted for?

**FINE LAMBS.**—Mr. E. CHEESBRO, of Guilderland, brought some lambs to this market on the 15th of June, which were dropped the first week in April, that weighed ten pounds per quarter. They were three-fourths South Down, and of as fine a quality as to flesh as we have ever seen; we speak from actual trial. Mr. C. reared thirty lambs from twenty-five ewes. A few years ago he reared twenty-three lambs from eleven ewes.

**WHITE CROWS.**—In an article on the "Principles of Breeding," in another part of this number, it is mentioned that white crows have been sometimes seen. Since that article was written, we have learned, through the *Zanesville (O.) Gazette*, that Dr. W. E. IDE, of that place, has lately received for his ornithological cabinet, one of these rare birds, which was shot in that vicinity. It is said to have belonged to a brood of four, two of which were black, and two entirely white, except a dark tinge towards the tips of the wings. They were nearly or quite full grown. Their parents were black.

**RIBBON HOUSES—CORRECTION.**—The article on Ribbon Houses in our May number, stated that the boards for the walls should be "a fourth of an inch thick." It should have been one and a fourth of an inch thick.

**NATIONAL FAIR.**—This exhibition, which took place at the city of Washington, was continued for three days during the first week of the past month. We have as yet met with no regular or official report, but have reason to believe, from the notices we have seen, that the contributions were numerous, embracing samples of almost every variety of fabric, implement, or article manufactured in this country; and of a quality highly creditable to the skill of our artizans. The different specimens of cloth are described as being very superior in quality and finish, equalling in these respects any of the same class of goods of foreign manufacture. Numerous specimens of silk goods were shown, which appear to have attracted much attention. The fabrics from the establishments of Mr. GILL, at Mount Plea-



sant, Ohio, and Wheeling, Virginia, were greatly admired. We have no doubt the effects of the exhibition will be decidedly beneficial to the country at large, and we trust it may be followed, annually, by others of even greater extent and interest.

**AMERICAN HERD-BOOK.**—Just as our number for this month was going to press, we received several copies of this work. We have not space to notice it particularly this month, but would simply say that it is handsomely got up, embraces 240 pages octavo, and will be sold at three dollars per copy. It is for sale at this office, and by A. B. ALLEN, 205 Broadway, New-York. We are also informed that it will be for sale at Nashville, Tennessee, and at Louisville and Lexington, Kentucky. We shall speak of the work more fully next month.

Those who are desirous of procuring *large geese*, are referred to the advertisement of Mr. GEO. BEMENT, in this number.

The attention of wool-growers is invited to the advertisement of Messrs. PERKINS & BROWN, who, it will be seen, have established a wool depot at Springfield, Mass., to aid farmers in obtaining the best possible prices for their wool.

**STODDARD'S SEEDLING STRAWBERRY.**—We inadvertently omitted to acknowledge in our last, the reception of a large box of these fine strawberry plants, from Col. J. S. Stoddard, of Palmyra. They are now growing finely, and promise well. Those wishing to add this celebrated strawberry to their collections, can obtain them in August, by addressing Col. S., at Palmyra.

#### AGRICULTURAL SOCIETIES.

**NEW-YORK STATE.**—Our efforts to obtain the proceedings of the meeting of the Executive Committee at Auburn, in May, have not been successful. There was, we believe, no meeting of the Committee last month. We have the following notice from the President, by which it will be seen that a full meeting of the Ex. Committee on the 2d Thursday of this month, is particularly desired:

To Gentlemen composing the Executive Committee of the New-York State Ag. Society.

At our coming meeting, on the 2d Thursday in July, much important business will be brought before you, and I hope that every member of the Committee will make it convenient to attend at that time, for it is very desirable that there should be as full an attendance as possible. J. M. SHERWOOD, Pres't.

Auburn, 16th June, 1846.

**JEFFERSON Co., N. Y.**—Fair to be held at Watertown, Sept. 22, 23. Among the list of premiums, we notice 12 vols. of the Cultivator are offered.

#### CUTTING GRAIN.

THERE are several advantages in favor of cutting grain before it becomes dead ripe. 1. It has been ascertained that wheat cut while it is so soft that it may be mashed between the fingers, will make flour containing more gluten, will absorb more water in kneading, and make more and better bread than the same quantity of grain perfectly ripened while standing. 2. The straw of all grain is much better if cut while it is a little green, and this on many farms is an item of no small importance, as it constitutes a large proportion of the winter food of stock. 3. Cutting early is often the means of saving a crop from rust. At all events, it has been well proved that whenever grain is struck by rust, it is best to cut it. If it stands it does not improve after the rust comes on, but often grows worse rapidly. If it is cut and well cured in shock, it sometimes makes a very fair kernel. Farmers are too often careless about the manner in which their grain is shocked or "stoked." It should be bound in small bundles, and the shocks carefully put up so that they will stand the weather. Wet spoils both the grain and straw. Good,

bright, early-cut straw, especially that of barley and oats, is better than hay made according to the practice of some farmers.

#### FOREIGN.

By the Caledonia, arrived at Boston on the 18th, we have English and Scotch papers to June 4th. The prospect for crops, both in the British islands and on the Continent, was uncommonly fine—giving every appearance of an abundant and early harvest. The potato crop, which was in a forward condition, had not as yet shown any symptom of disease, and hopes were entertained that it might escape the scourge to which it has been subject in former years. The new corn-bill had passed a second reading in the House of Lords by a majority of 47. Not a shadow of doubt now exists as to its final passage. Immense quantities of grain are said to remain in bond, waiting to be released under the low rate of duty, (4 shillings per quarter,) which the new bill allows; and on its becoming a law, prices will undoubtedly be very low. Whether the United States will realize any important benefits from this new feature in British policy, remains to be shown. The cotton market is firm.

#### INQUIRIES.

**TIME TO BUD ROSES.**—R. B. M., (Greene, N. Y.) The practice of Mr. WILSON, a good Horticulturist, of this city, is to begin budding in July, and continue as long as the bark will work.

**MANAGEMENT OF SHEEP.**—A YOUNG FARMER, (North Easton, N. Y.) It is not well to turn sheep suddenly from very poor feed to that which is very abundant and succulent, especially about the time of yearning. The rank feed may produce *hoven*, or it may bring on *scours*, or it may cause a plethora and inflammation, particularly of the udder, which soon renders the milk unwholesome, and makes the lamb sick. The supply of food should be constant and regular, moderately nutritious, and in seasonable quantity.

**CURING CORN-FODDER.**—It is best to cradle it, or cut with a hook or sickle, lay it straight, and after it is wilted a little, put it in small shocks, and bind them close to the top. Let them stand till they are dry, and the fodder will be good.

**MACHINE FOR CUTTING AND THRESHING GRAIN AT THE SAME TIME.**—J. D., (Davenport, Iowa.) The only machine of this kind of which we have any knowledge, was invented and patented by JEREMIAH DAWLING, of Adrian, Lenawee county, Michigan. He left with us, sometime since, a drawing of this machine; otherwise we are ignorant of its character. We presume he can tell you all about it.

J. M., (Fall River, Mass.) The "barn and rails" you speak of as being in La Salle county, Illinois, could probably be insured against fire at some office in that section. As to the land, it had better remain in grass probably, till you get ready to move on it. It is likely the best grasses for it will be found to be timothy, red-top, and Kentucky blue-grass. We cannot tell what the cost of seeding would be in that section.

**NAME OF PLANT.**—E. W. H., (Towanda, Pa.) We cannot tell what plant you mean by "*live-forever*." If you will give the botanical name or send a specimen of the plant, we will try to answer your inquiry.

**EMIGRANT'S HAND-BOOK.**—"EXORDIUM." (Cornish, N. H.) This work is for sale by W. C. Little, of this city. Price fifty cents.

**LICE ON HOGS.**—Rub their bodies with oil or grease, or, if they are not too heavy, dip them in a decoction of tobacco.

**CULTURE OF INDIAN CORN.**—J. P., (Charleston, S. C.) See article on this subject in our April number, p. 114.

**MACHINES FOR GRINDING CORN AND COB.**—S. T., (Dayton, Ohio.) Pitts' Corn and Cob Cutter, (see Cultivator for last year, p. 324,) is the best we know;

the price is \$40. They are made at Rochester, in this state, and Winthrop, Maine. Address J. A. Pitts, Rochester, or H. A. Pitts, Winthrop.

**STRAW-CUTTERS FOR HORSE-POWER.**—S. T. Hovey's Nos. 5 and 6, prices \$25 and \$30, are capital machines. We cannot tell what the cost of transporting to Dayton, O., either this machine or Pitt's Corn and Cob Cutter would be; but they are light and not bulky, and the cost could not be large.

**ELLSWORTH'S SELF-ACTING PUMP.**—S. T. You say, at ten rods from the well you allude to, there is a fall of five feet. We do not see anything to hinder the pump from working in such a situation. We cannot tell about the cost. Will Mr. Ellsworth be so good as to drop us a line on the subject?

**LICE ON FOWLS.**—"INQUIRER." Oil their heads frequently, and give them wood-ashes to roll or dust themselves in.

#### CONDENSED CORRESPONDENCE.

##### POTATO ROT.

We have received several communications on this subject, the substance of which we give as follows:—

H. S. SHELDON, Middlebury, Vt., is inclined to attribute the disease to atmospheric influence. He states that the only case of entire exemption within his knowledge, is where the potatoes were grown on an elevation, about a mile in length and 150 feet high, of a sandy soil, with a south-western aspect. The soil is said never to have been manured, but its fertility is kept up and rather improved by the application of plaster. It is sown in the spring, and a heavy growth of clover is produced, which, being turned under, furnishes nutriment for the succeeding crop. He says—"potatoes grown on this soil are unusually dry and mealy, and keep perfectly sound through the winter. We have raised the pink eyes for the last ten years, and those whom we furnish, pronounce them superior to any in market."

JONATHAN STORRS, Mass., thinks the cause of the disease is owing to the unusual prevalence of cold weather for the two last seasons, after the potatoes were planted, which by chilling the seed, caused the produce to be defective. He advised to defer planting till after the middle or 20th of May. Last year he says he planted from the 20th to the 24th of May, and the crop was sound. He advises, also, that the ground be plowed a few days before planting, to let the sun and air warm the soil, that the potatoes may vegetate the sooner.

[NOTE.—Nearly all the accounts we receive, are in favor of early planting.]

##### WHEAT CROP IN OHIO.

Extract from a letter dated Zanesville, O., June 16th: "We have the best wheat crop we have had for five years. Some farmers will commence cutting to-morrow. Wheat is now fifty cents per bushel; after harvest, 40 cts. will probably be the price. \* \* \* The locusts have killed nearly all the young fruit trees of three years and under. Mr. — has not one left in a fine young orchard."

##### VINTAGE OF OHIO.

N. LONGWORTH, Esq., of Cincinnati writes, under date of July 17th:—"We have never had a better promise of a grape crop than at the present time. If we meet with no accident, I shall make from 500 to 600 barrels of wine."

**SOWING MACHINE.**—Our correspondent, Mr. S. B. BUCKLEY, of West-Dresden, Yates Co., N. Y., writes in reference to an inquiry which appeared in the Cultivator, that he has a machine which he uses to sow plaster and lime, and which he thinks very useful. He says—"a man and a horse can sow from 20 to 25 acres in a day with great ease. It can also be used for sowing grain, and is doubtless the machine alluded to by Mr. RUDER, p. 68, of your present volume. It is made by S. HAVENS, at Dresden, in this county."

#### PRICES OF AGRICULTURAL PRODUCTS.

New-York, June 20, 1846.

COTTON—New Orleans and Alabama per lb., 6½a10c.—Florida, 6½a8½—Upland, 7½a9 cts.	
BUTTER—Prime, per lb., 15a17c.—Common, 6½a7.	
CHEESE—Per lb., 6a7c.	
FLOUR—Richmond City Mills, per bbl., \$6a\$6.25—Balt., Howard st., \$4—Ohio and Michigan, via canal, \$4.	
GRAIN—Wheat, Genesee, per bushel, \$1a\$1.02—Rye, northern, 63a64 c.—Corn, Northern and Jersey, 55a60 c.—Southern, 50a51—Oats, Northern, 32a33c.	
HEMP—Russia, clean, per ton, \$215a\$225—American water-rotted, \$130a\$180.	
HAMS—Smoked, per lb., 5½a6 cts.	
BEEF—Mess, per bbl., \$6.25a\$7—Prime, \$4.25a\$4.50.	
LARD—5½a7c, per lb.	
PORK—Mess, per bbl., \$10.50—prime, \$8.00a\$8.12½.	
WOOL—(Boston prices.) June 17:	
Prime or Saxon fleeces, washed per lb.,.....	38a40 cts.
American full blood fleeces,.....	35a37 "
" three-fourths blood fleeces,.....	30a32 "
" half blood do.....	28a30 "
" one-fourth blood and common,.....	26a28 "

#### AGRICULTURAL MACHINERY.

THE following Agricultural Machines are particularly recommended to extensive Planters for great capacity, strength, durability, and performance. From our experience in their manufacture, and success attending sales of them the last ten years, we can safely recommend them to be equal, if not superior to other similar Machines made in this country, viz:

Lever Horse Powers, for 2 horses, with strength sufficient for draught for eight,.....	\$150
Lever Horse Powers, for 2 to 6 horses,.....	100
Endless Chain Horse Powers, No 1,.....	75
Do. do. do. do No. 2,.....	100
Driving Leather Bands,.....	8 to 10
Threshing Machine, with 20 inch cylinder,.....	40
Do. do. do. 30 do. ....	60
Goldsborough Corn Sheller and Husking Machine, very simple and excellent,.....	40
Pettigrew N. Carolina Corn Sheller,.....	80
Corn and Cob Crushers,.....	30
Corn Mills, for grinding fine or coarse meal,.....	40
Wheat Fans, (Rice's Patent),.....	25 to 30
Do. do. Watkin's extra,.....	45
Cylindrical Straw Cutters, for cutting straw, hay, corn-stalks, &c., (the medium size,) price,.....	30 to 40
Cylindrical ever cutting,.....	14 to 20
Hand Corn Shellers,.....	12 to 14

Also, plows of most approved construction, harrows, cultivators, grain cradles, and every variety of Farming and Garden Tools. Field and Garden Seeds, an extensive assortment.

See Catalogue for particulars.

R. SINCLAIR, Jr., & Co., Baltimore.

June 1, 1846.—2t.

#### VALUABLE FARM AND COUNTRY SEAT FOR SALE.

THE subscriber offers for sale the Farm on which he now resides, situate in Southwick, Hampden county, Mass. The road from Hartford to Northampton, via Westfield, along which a mail coach passes daily, runs nearly through the centre of the Farm, which contains about 400 acres, nearly half of which is wood land, heavily timbered. It is bounded on one side by the Farmington canal, which renders the communication with New-Haven, an excellent wood market, easy and expeditious. The buildings are a mansion house, with a wing, the latter new, making a front of 70 feet. Also a house for a tenant; three large barns, nearly new, covered with pine and painted; a corn house, carriage house, sheds, &c. Great pains have been taken in selecting and cultivating choice fruit, and there is now on the Farm, in full bearing, a great abundance of the best varieties of apples, cherries, peaches, &c. A part of the land is of superior quality, and on almost every lot is living water.

Tariffville, a large manufacturing village, seven miles distant, affords a ready market for wood and every kind of produce, raised on a farm. This is one of the most valuable and desirable locations in the country, not only for farming purposes, but for the gentleman of leisure. A large portion of the purchase money, if desired, can remain for a term of years. I will sell the whole together, or in two parts. Letters of inquiry addressed to me, will receive prompt attention, or inquiry can be made of LUTHER TUCKER, Albany, or of R. SHURTLEFF, Springfield.

ROGER S. MOORE.

Southwick, March 1, 1846.—6t

#### BURRALL'S CORN SHELLER.

THE subscribers are now fully supplied with this valuable Sheller so as to be in readiness hereafter to fill orders for any number, without delay. A further trial during the last month has fully established the superiority of this over all other Shellers for hand power. For description, engraving, &c., see Cultivator for February, page 60. Retail price \$10, with a liberal discount at wholesale.

E. COMSTOCK & Co.

Albany Ag. Warehouse

March 1st, 1846.



## DURHAM STOCK FOR SALE,

THE subscriber has on his farm near this city, more stock than he needs, and will sell two two years old, and two yearling heifers, one yearling bull, and four spring calves. The price of the latter will be from \$50 to \$75 when about 3 months old, and the price of the yearlings and two years old, from \$100 to \$125.

This young stock was got by the prize bulls Duke of Wellington, and prize bull Meteor; both possessing the blood of the stock of the celebrated breeder, Thomas Bates, Esq., Yorkshire, England. The stock is out of first rate milking Durham cows, and will carry its own recommendation.

GEO. VAIL.

Troy, June 1st, 1846—2t.

## VALUABLE FARM ON STATEN ISLAND FOR SALE.

THE well known farm of the late Samuel Akerly, M. D., situated on the South side of Staten Island, in the town of Southfield, Richmond county, in consequence of the decease of its late owner, is now for sale. It contains 125 acres, 25 of which are woodland; is in a high state of cultivation, and well stocked with a variety of fruit trees. The house has been recently enlarged—is ample and commodious; the barns are new, and the farm is in good fence. It has a wide front to the water on a bay which abounds with the best kind of salt water fish, also with clams and oysters, all easily procured fresh from their native element. The experience of a long course of years, for the main part of the dwelling house has stood for more than a century, has demonstrated that the situation is perfectly healthful.

The late owner, Dr. Akerly, died in July last; he had cultivated the farm for a number of years with great assiduity and care, keeping a daily and most minute register of the precise amount of labor and cultivation bestowed on each field, and noting many important observations which would be highly instructive and useful to the future owner. The purchaser may be furnished with a copy of this diary.

The site of this farm is extremely beautiful—the approach to it from the main road is a private road of about half a mile in length, running mostly through a piece of woodland, consisting of young timber of vigorous growth. After the visitor has travelled on this road about one-third of a mile, there opens upon him a prospect which takes in the low land, comprising the cultivated part of the farm—the placid and bright bay which separates Staten Island from Monmouth county, N. J.,—the highlands of Neversink, with the two lighthouses erected thereon—the lighthouses on and near Sandy Hook, together with the one at Prince's Bay, including the west end of Long Island. All the vessels employed in the commerce of New-York with foreign countries may be seen as they come in and depart, from the dwelling house and several other points on the farm.

The late owner, Dr. Akerly, who was born and educated in this city, after extensive examination and inquiry for a farm to which he might retire, on account of impaired health, selected this spot, to which he removed in the year 1839. Here he sought health and quiet retirement, and found them, until the day before his decease. He became exceedingly attached to the farm as a residence, and would have most reluctantly exchanged it for any other residence whatever. Such were its attractions that he never left it a single day, in winter or summer, but with regret.

For further particulars apply to HIRAM KETCHUM, Executor, No. 31 Wall st., or SAMUEL BOWNE, No. 43 John-street July 1, 1846.—3t.

## GENUINE MORGAN HORSES.

THE subscriber will offer for sale his stud of the choicest Morgan stock on advantageous terms, to those who may wish to grow profitable, enduring, high-priced horses, consisting of the following horses, viz: *Flint Morgan* and *Sherman Morgan, Jr.* Both were sired by old Sherman Morgan, the most distinguished horse of his times, and are not second as stock horses to any of this far famed race. *Flint Morgan*, I bought of Jonas Flint, Esq., of St. Johnsbury, Caledonia county, Vt., and *Sherman Morgan, Jr.* I bought of John Buckminster, Esq., of Danville, Vt., there raised and known as the Blanchard colt, to which places persons are referred for their pedigrees and merits, as well as to testimonials in my possession; also to the counties of Strafford, Canol, Belknap, N. H., where their stock is highly approved and extensively known. Also, four breeding mares of this inestimable blood, viz: *Dolly*, *Kate*, *Fanny*, and *Adaline*, and all of which were sired by old Sherman Morgan, and are believed in foal. Their blood, power, and appearance, together with their stock already produced, favorably recommend them as breeders. Also, colts and fillies of various ages, may be seen at the stable of the subscriber; all of which will be sold collectively or separately to suit applicants.

JOHN BELLOWES.

Lancaster, Coos Co., N. H., May 1, 1846—3t.

## 100 DOZEN CAST STEEL HOES.

THE subscribers have on hand an elegant assortment of Cast Steel Hoes, highly polished, and finished in the best manner. Among them 50 dozen made by Henry Tower, of Milbury, Mass., of four or five different numbers and prices. Also several other kinds of neck and eye hoes. Merchants and others dealing in hoes are invited to examine them.

E. COMSTOCK &amp; Co.

Albany Ag. Warehouse, March 1, 1846.

## GUANO,

BY the ton or hundred, or in smaller quantities, at 23 Dean-st. E. COMSTOCK & Co., Albany Ag. Warehouse.

## PATENT PREMIUM FAN-MILLS.

I. T. GRANT & Co., still continue to manufacture the celebrated Improved Patent Fan-Mills, at the old stand, Junction, Rens. Co., N. Y. These mills have taken the first premium at the following places:—New-York State Fair, at the Institute, New-York, the State Fair, at Pennsylvania, and the State Fair at Maryland. The subscribers have no hesitation in saying that these mills surpass anything of the kind ever offered in market. They are the only mill that has ever been produced that will chaff and screen wheat perfectly clean in one operation.

We also manufacture *Grain Cradles* of the very best quality, which have taken the first premium at the New-York State Fair. They are for sale at factory prices, at the following places:—

A. B. Allen's, 187 Water-st., New-York;

D. L. Clawson's, 191 " "

E. Comstock &amp; Co.'s, Albany;

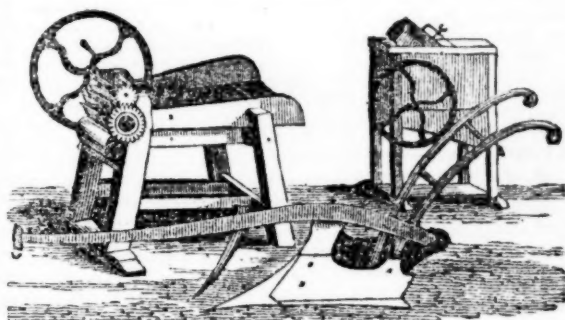
H. Warren's, Troy; and

Viall &amp; Warren's, Mechanicsville, Saratoga Co., N. Y.

All orders thankfully received and punctually attended to. All goods delivered at Troy, N. Y., free of charge.

I. T. GRANT, &amp; Co., Junction P. O., Rens. Co., N. Y.

Feb. 1—1f [2]



## PROUTY &amp; MEARS, BOSTON,

CELEBRATED, highly approved, and unequalled CENTER DRAFT PREMIUM PLOWS—for sale at their sole agents',

JOHN MAYHER &amp; Co.'s

Agricultural Warehouse, 195 Front-st., near Fulton, New-York.

The subscribers have just received a large assortment of Prouty & Mear's celebrated and highly improved CENTER DRAFT PLOWS, which are in every way superior to all others now in use; and having been appointed sole agents for the sale of the same in the city of New-York, we invite the public to call and examine for themselves, as the above plows cannot be obtained at any other establishment in the city. Dealers and others in the country supplied on the most reasonable terms.

We also wish to inform merchants and farmers that we have constantly for sale plows of our own manufacture, and all others now in use.

The following is a list of prices of some of the plows manufactured by us.

A No. 1, Worcester patent,	\$1 50
A " 2,	2 00
A " 3,	2 50
2 B " "	3 50
2 B " " with colter,	4 00
Eagle, No. 1, " "	4 50
" " 2, " " with colter,	5 00
" " 2, " " with colter,	5 00
" " 2, " " with colter,	5 50
Meadow C " "	5 50
" " " " with colter,	6 50

Castings to fit the Worcester Ploughs, 3½ cents per pound.

We likewise have for sale the most extensive assortment of Agricultural Implements ever offered in this city, most of which are new and highly improved patterns, warranted to be made of the best materials, and of very superior finish, among which are the following:

Pitts' Corn and Cob Crusher,	Sinclair's Stalk and Straw Cutter,
Hussey's " " "	Hovey's " " "
Sinclair's " " "	Stevens' " " "
Hussey's Reaping Machine,	Greene's " " "
Bark Mills, 4 sizes,	I. T. Grant & Co.'s Prem. Fan Mills,
Coffee " " "	Clinton's Prem. Fan-Mills
Corn Shellers of all kinds,	Rice's " " "
Horse Powers " " "	Holmes' " " "
Threshing Machines " "	Store Trucks, Wheelbarrows,
Subsoil Plows, of the most approved kinds,	Mule Waggon, &c., &c.,
Cultivators of the most approved kinds,	

Langdon's much approved Cultivator Plows or Horse Hoe. All kinds of plow castings constantly on hand. All the above articles are offered for sale on the most reasonable terms. Castings of all kinds made to order.

JOHN MAYHER &amp; Co.,

195 Front-st., N. Y.

N. B. Beware of Imposition. Any person offering plows for sale, and representing them to be of our manufacturing without the full name "J. MAYHER & Co.," on the mouldboard and beam of the plows, are guilty of a false representation, as no person in the city and county of New-York has the genuine article for sale but ourselves. April 1—1f [2]

J. M. &amp; Co.

the price is \$40. They are made at Rochester, in this state, and Winthrop, Maine. Address J. A. Pitts, Rochester, or H. A. Pitts, Winthrop.

**STRAW-CUTTERS FOR HORSE-POWER.**—S. T. Hovey's Nos. 5 and 6, prices \$25 and \$30, are capital machines. We cannot tell what the cost of transporting to Dayton, O., either this machine or Pitt's Corn and Cob Cutter would be; but they are light and not bulky, and the cost could not be large.

**ELLSWORTH'S SELF-ACTING PUMP.**—S. T. You say, at ten rods from the well you allude to, there is a fall of five feet. We do not see anything to hinder the pump from working in such a situation. We cannot tell about the cost. Will Mr. Ellsworth be so good as to drop us a line on the subject?

**LICE ON FOWLS.**—"INQUIRER." Oil their heads frequently, and give them wood-ashes to roll or dust themselves in.

#### CONDENSED CORRESPONDENCE.

##### POTATO ROT.

We have received several communications on this subject, the substance of which we give as follows:—

H. S. SHELDON, Middlebury, Vt., is inclined to attribute the disease to atmospheric influence. He states that the only case of entire exemption within his knowledge, is where the potatoes were grown on an elevation, about a mile in length and 150 feet high, of a sandy soil, with a south-western aspect. The soil is said never to have been manured, but its fertility is kept up and rather improved by the application of plaster. It is sown in the spring, and a heavy growth of clover is produced, which, being turned under, furnishes nutriment for the succeeding crop. He says—"potatoes grown on this soil are unusually dry and mealy, and keep perfectly sound through the winter. We have raised the pink eyes for the last ten years, and those whom we furnish, pronounce them superior to any in market."

JONATHAN STORRS, Mass., thinks the cause of the disease is owing to the unusual prevalence of cold weather for the two last seasons, after the potatoes were planted, which by chilling the seed, caused the produce to be defective. He advised to defer planting till after the middle or 20th of May. Last year he says he planted from the 20th to the 24th of May, and the crop was sound. He advises, also, that the ground be plowed a few days before planting, to let the sun and air warm the soil, that the potatoes may vegetate the sooner.

[NOTE.—Nearly all the accounts we receive, are in favor of early planting.]

##### WHEAT CROP IN OHIO.

Extract from a letter dated Zanesville, O., June 16th: "We have the best wheat crop we have had for five years. Some farmers will commence cutting to-morrow. Wheat is now fifty cents per bushel; after harvest, 40 cts. will probably be the price. \* \* \* The locusts have killed nearly all the young fruit trees of three years and under. Mr. — has not one left in a fine young orchard."

##### VINTAGE OF OHIO.

N. LONGWORTH, Esq., of Cincinnati writes, under date of July 17th:—"We have never had a better promise of a grape crop than at the present time. If we meet with no accident, I shall make from 500 to 600 barrels of wine."

**SOWING MACHINE.**—Our correspondent, Mr. S. B. BUCKLEY, of West-Dresden, Yates Co., N. Y., writes in reference to an inquiry which appeared in the Cultivator, that he has a machine which he uses to sow plaster and lime, and which he thinks very useful. He says—"a man and a horse can sow from 20 to 25 acres in a day with great ease. It can also be used for sowing grain, and is doubtless the machine alluded to by Mr. RUDER, p 68, of your present volume. It is made by S. HAVENS, at Dresden, in this county."

#### PRICES OF AGRICULTURAL PRODUCTS.

New-York, June 20, 1846.

COTTON—New Orleans and Alabama per lb., 6½a10c.—Florida, 6½a8½—Upland, 7½a9 cts.	
BUTTER—Prime, per lb., 15a17c.—Common, 6½a7.	
CHEESE—Per lb., 6a7c.	
FLOUR—Richmond City Mills, per bbl., \$6a\$6.25—Balt., Howard st., \$4—Ohio and Michigan, via canal, \$4.	
GRAIN—Wheat, Genesee, per bushel, \$1a\$1.02—Rye, northern, 63a64 c.—Corn, Northern and Jersey, 55a60 c.—Southern, 50a51—Oats, Northern, 32a33c.	
HEMP—Russia, clean, per ton, \$215a\$225—American water-rotted, \$130a\$180.	
HAMS—Smoked, per lb., 5½a6 cts.	
BEEF—Mess, per bbl., \$6.25a\$7—Prime, \$4.25a\$4.50.	
LARD—5½a7c. per lb.	
PORK—Mess, per bbl., \$10.50—prime, \$8.00a\$8.12½.	
WOOL—(Boston prices.) June 17:	
Prime or Saxon fleeces, washed per lb. ....	38a40 cts.
American full blood fleeces, .....	35a37 "
" three-fourths blood fleeces, .....	30a32 "
" half blood do .....	28a30 "
" one-fourth blood and common, .....	26a28 "

#### AGRICULTURAL MACHINERY.

THE following Agricultural Machines are particularly recommended to extensive Planters for great capacity, strength, durability, and performance. From our experience in their manufacture, and success attending sales of them the last ten years, we can safely recommend them to be equal, if not superior to other similar Machines made in this country, viz:

Lever Horse Powers, for 2 horses, with strength sufficient for draught for eight, .....	\$150
Lever Horse Powers, for 2 to 6 horses, .....	100
Endless Chain Horse Powers, No 1, .....	75
Do. do. do. No. 2, .....	100
Driving Leather Bands, .....	8 to 10
Threshing Machine, with 20 inch cylinder, .....	40
Do. do. do. 30 do. ....	60
Goldsbrough Corn Sheller and Husking Machine, very simple and excellent, .....	40
Pettigrew N. Carolina Corn Sheller, .....	80
Corn and Cob Crushers, .....	30
Corn Mills, for grinding fine or coarse meal, .....	40
Wheat Fans, (Rice's Patent), .....	25 to 30
Do. do. Watkin's extra, .....	45
Cylindrical Straw Cutters, for cutting straw, hay, corn-stalks, &c., (the medium size,) price, .....	30 to 40
Cylindrical ever cutting, .....	14 to 20
Hand Corn Shellers, .....	12 to 14

Also, plows of most approved construction, harrows, cultivators, grain cradles, and every variety of Farming and Garden Tools. Field and Garden Seeds, an extensive assortment.

See Catalogue for particulars.

R. SINCLAIR, Jr., & Co., Baltimore.

June 1, 1846.—2t.

#### VALUABLE FARM AND COUNTRY SEAT FOR SALE.

THE subscriber offers for sale the Farm on which he now resides, situate in Southwick, Hampden county, Mass. The road from Hartford to Northampton, via Westfield, along which a mail coach passes daily, runs nearly through the centre of the Farm, which contains about 400 acres, nearly half of which is wood land, heavily timbered. It is bounded on one side by the Farmington canal, which renders the communication with New-Haven, an excellent wood market, easy and expeditious. The buildings are a mansion house, with a wing, the latter new, making a front of 70 feet. Also a house for a tenant; three large barns, nearly new, covered with pine and painted; a corn house, carriage house, sheds, &c. Great pains have been taken in selecting and cultivating choice fruit, and there is now on the Farm, in full bearing, a great abundance of the best varieties of apples, cherries, peaches, &c. A part of the land is of superior quality, and on almost every lot is living water.

Tariffville, a large manufacturing village, seven miles distant, affords a ready market for wood and every kind of produce, raised on a farm. This is one of the most valuable and desirable locations in the country, not only for farming purposes, but for the gentleman of leisure. A large portion of the purchase money, if desired, can remain for a term of years. I will sell the whole together, or in two parts. Letters of inquiry addressed to me, will receive prompt attention, or inquiry can be made of LUTHER TUCKER, Albany, or of R. SHURTLEFF, Springfield.

ROGER S. MOORE.

Southwick, March 1, 1846.—6t

#### BURRALL'S CORN SHELLER.

THE subscribers are now fully supplied with this valuable Sheller so as to be in readiness hereafter to fill orders for any number, without delay. A further trial during the last month has fully established the superiority of this over all other Shellers for hand power. For description, engraving, &c., see Cultivator for February, page 60. Retail price \$10, with a liberal discount at wholesale.

E. COMSTOCK & Co.

Albany Ag. Warehouse

March 1st, 1846.



## DURHAM STOCK FOR SALE,

THE subscriber has on his farm near this city, more stock than he needs, and will sell two two years old, and two yearling heifers, one yearling bull, and four spring calves. The price of the latter will be from \$50 to \$75 when about 3 months old, and the price of the yearlings and two years old, from \$100 to \$125.

This young stock was got by the prize bulls Duke of Wellington, and prize bull Meteor; both possessing the blood of the stock of the celebrated breeder, Thomas Bates, Esq., Yorkshire, England. The stock is out of first rate milking Durham cows, and will carry its own recommendation.

Troy, June 1st, 1846—2t.

GEO. VAIL.

## VALUABLE FARM ON STATEN ISLAND FOR SALE.

THE well known farm of the late Samuel Akerly, M. D., situated on the South side of Staten Island, in the town of Southfield, Richmond county, in consequence of the decease of its late owner, is now for sale. It contains 125 acres, 25 of which are woodland; is in a high state of cultivation, and well stocked with a variety of fruit trees. The house has been recently enlarged—is ample and commodious; the barns are new, and the farm is in good fence. It has a wide front to the water on a bay which abounds with the best kind of salt water fish, also with clams and oysters, all easily procured fresh from their native element. The experience of a long course of years, for the main part of the dwelling house has stood for more than a century, has demonstrated that the situation is perfectly healthful.

The late owner, Dr. Akerly, died in July last; he had cultivated the farm for a number of years with great assiduity and care, keeping a daily and most minute register of the precise amount of labor and cultivation bestowed on each field, and noting many important observations which would be highly instructive and useful to the future owner. The purchaser may be furnished with a copy of this diary.

The site of this farm is extremely beautiful—the approach to it from the main road is a private road of about half a mile in length, running mostly through a piece of woodland, consisting of young timber of vigorous growth. After the visitor has travelled on this road about one-third of a mile, there opens upon him a prospect which takes in the low land, comprising the cultivated part of the farm—the placid and bright bay which separates Staten Island from Monmouth county, N. J.—the highlands of Neversink, with the two lighthouses erected thereon—the lighthouses on and near Sandy Hook, together with the one at Prince's Bay, including the west end of Long Island. All the vessels employed in the commerce of New-York with foreign countries may be seen as they come in and depart, from the dwelling house and several other points on the farm.

The late owner, Dr. Akerly, who was born and educated in this city, after extensive examination and inquiry for a farm to which he might retire, on account of impaired health, selected this spot, to which he removed in the year 1839. Here he sought health and quiet retirement, and found them, until the day before his decease. He became exceedingly attached to the farm as a residence, and would have most reluctantly exchanged it for any other residence whatever. Such were its attractions that he never left it a single day, in winter or summer, but with regret.

For further particulars apply to HIRAM KETCHUM, Executor, No. 31 Wall st., or SAMUEL BOWNE, No. 33 John-street July 1, 1846.—3t.

## GENUINE MORGAN HORSES.

THE subscriber will offer for sale his stud of the choicest Morgan stock on advantageous terms, to those who may wish to grow profitable, enduring, high-priced horses, consisting of the following horses, viz: *Flint Morgan* and *Sherman Morgan, Jr.* Both were sired by old Sherman Morgan, the most distinguished horse of his times, and are not second as stock horses to any of this far famed race. *Flint Morgan*, I bought of Jonas Flint, Esq., of St. Johnsbury, Caledonia county, Vt., and *Sherman Morgan, Jr.*, I bought of John Buckminster, Esq., of Danville, Vt., there raised and known as the Blanchard colt, to which places persons are referred for their pedigrees and merits, as well as to testimonials in my possession; also to the counties of Strafford, Canol, Belknap, N. H., where their stock is highly approved and extensively known. Also, four breeding mares of this inestimable blood, viz: *Dolly*, *Kate*, *Fanny*, and *Adaline*, and all of which were sired by old Sherman Morgan, and are believed in foal. Their blood, power, and appearance, together with their stock already produced, favorably recommend them as breeders. Also, colts and fillies of various ages, may be seen at the stable of the subscriber; all of which will be sold collectively or separately to suit applicants.

JOHN BELLWS.

Lancaster, Coos Co., N. H., May 1, 1846—3t.

## 100 DOZEN CAST STEEL HOES.

THE subscribers have on hand an elegant assortment of Cast Steel Hoes, highly polished, and finished in the best manner. Among them 50 dozen made by Henry Tower, of Milbury, Mass., of four or five different numbers and prices. Also several other kinds of neck and eye hoes. Merchants and others dealing in hoes are invited to examine them.

E. COMSTOCK & Co.

Albany Ag. Warehouse, March 1, 1846.

## GUANO,

BY the ton or hundred, or in smaller quantities, at 23 Dean-st. E. COMSTOCK & Co., Albany Ag. Warehouse.

## PATENT PREMIUM FAN-MILLS.

I. T. GRANT & Co., still continue to manufacture the celebrated Improved Patent Fan-Mills, at the old stand, Junction, Rens. Co., N. Y. These mills have taken the first premium at the following places:—New-York State Fair, at the Institute, New-York, the State Fair, at Pennsylvania, and the State Fair at Maryland. The subscribers have no hesitation in saying that these mills surpass anything of the kind ever offered in market. They are the only mill that has ever been produced that will chaff and screen wheat perfectly clean in one operation.

We also manufacture Grain Cradles of the very best quality, which have taken the first premium at the New-York State Fair. They are for sale at factory prices, at the following places:—

A. B. Allen's, 157 Water-st., New-York;

D. L. Clawson's, 191 " "

E. Comstock & Co.'s, Albany;

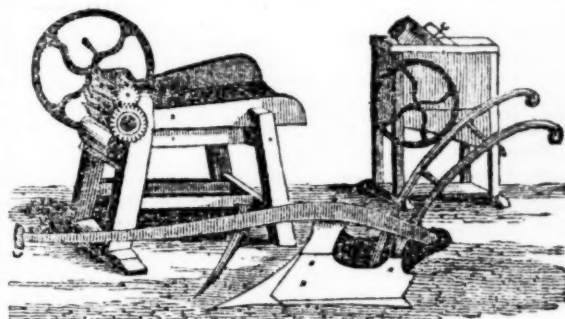
H. Warren's, Troy; and

Viall & Warren's, Mechanicsville, Saratoga Co., N. Y.

All orders thankfully received and punctually attended to. All goods delivered at Troy, N. Y., free of charge.

I. T. GRANT, & Co., Junction P. O., Rens. Co., N. Y.

Feb. 1—1f [2]



## PROUTY &amp; MEARS, BOSTON,

CELEBRATED, highly approved, and unequalled CENTER DRAFT PREMIUM PLOWS—for sale at their sole agents',

JOHN MAYHER & Co.'s

Agricultural Warehouse, 195 Front-st., near Fulton, New-York.

The subscribers have just received a large assortment of Prouty & Mear's celebrated and highly improved CENTER DRAFT PLOWS, which are in every way superior to all others now in use; and having been appointed sole agents for the sale of the same in the city of New-York, we invite the public to call and examine for themselves, as the above plows cannot be obtained at any other establishment in the city. Dealers and others in the country supplied on the most reasonable terms.

We also wish to inform merchants and farmers that we have constantly for sale plows of our own manufacture, and all others now in use.

The following is a list of prices of some of the plows manufactured by us.

A No. 1, Worcester patent,	\$1 50
A " 2, " "	2 00
A " 3, " "	2 50
2 B " " "	3 50
2 B " " "	4 00
Eagle, No. 1, " "	4 50
" " 2, " "	5 00
" " 2, " "	5 00
" " 2, " "	5 50
Meadow C " " "	5 50
" " " " "	6 50

Castings to fit the Worcester Ploughs, 3½ cents per pound.

We likewise have for sale the most extensive assortment of Agricultural Implements ever offered in this city, most of which are new and highly improved patterns, warranted to be made of the best materials, and of very superior finish, among which are the following:

Pitts' Corn and Cob Crusher,	Sinclair's Stalk and Straw Cutter,
Hussey's " " "	Hovey's " " "
Sinclair's " " "	Stevens' " " "
Hussey's Reaping Machine,	Greene's " " "
Bark Mills, 4 sizes,	I. T. Grant & Co.'s Prem. Fan Mills,
Coffee " " "	Clinton's Prem. Fan-Mills
Corn Shellers of all kinds,	Rice's " " "
Horse Powers " " "	Holmes' " " "
Threshing Machines " "	Store Trucks, Wheelbarrows,
Subsoil Plows, of the most approved kinds,	Mule Waggon, &c. &c.,
Cultivators of the most approved kinds,	

Langdon's much approved Cultivator Plows or Horse Hoe. All kinds of plow castings constantly on hand. All the above articles are offered for sale on the most reasonable terms. Castings of all kinds made to order.

JOHN MAYHER & Co.,

195 Front-st., N. Y.

N. B. Beware of Imposition. Any person offering plows for sale, and representing them to be of our manufacturing without the full name "J. MAYHER & Co.," on the mouldboard and beam of the plows, are guilty of a false representation, as no person in the city and county of New-York has the genuine article for sale but ourselves. April 1—1f [2]

J. M. & Co.

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## TO WOOL-GROWERS.

**PERKINS & BROWN**, of Akron, Summit County, Ohio, have made arrangements for opening a **COMMISSION WOOL HOUSE** at Springfield, Massachusetts.

Their intention is to class the fleeces into the different grades for cloths and for combing; and so to offer it to the different manufacturers and purchasers for exportation, as to enable dealers in wool, and the growers of fine wool in particular, to realize the advantage which the quality and condition of their wool deserve.

From their experience in the business, and extensive acquaintance with the Eastern Manufacturers, and wool dealers, they flatter themselves that they will be able to do their business to the satisfaction of those who may entrust them with their wool.

Their compensation for storing, (not over six months) and selling, will be one cent on the pound, and for classing one cent in addition.

Wool will be classed or not, as the owner may direct, but if no directions are given, they will class the fleeces as they do their own.

Their arrangements are such that persons may receive their pay for wool when sold, either at Akron or at Springfield, as they choose, by giving us notice of their preference.

In order to secure the best prices, wool should be put up in good condition, and be free from burrs and dirt, and secured with hemp or flax twine, and packed in good flax or hemp sacks.

Each sack should be directed to **Perkins & Brown, Springfield, Massachusetts**, with the initials of the owner, or some private mark to distinguish one person's wool from another. The direction and marks should be very plain to avoid mistake or loss.

Perkins and Brown should be immediately written to at Springfield, Mass., giving the number and weight of the sacks, with the distinguishing mark, and the name and residence of person shipping it. A receipt should be taken by the owner, of the person receiving the wool for shipment, stating the number and weight of the sacks of wool sent, and whether Saxony, Merino, common, or combing wool. Perkins & Brown will pay for the transportation of the wool when it is received.

Persons wishing to attend to the sale of their wool themselves, greatly need some convenient, central place of deposit, where it may lie without heavy expense for storage, while they look about for the best market, and where they can obtain correct and disinterested information in respect to the market. Our past experience in marketing the wool we have grown, has led us to this plan, and our location will be one of the most central and convenient for that purpose in New-England.

**SIMON PERKINS,  
JOHN BROWN.**

Akron, Summit Co., Ohio, July 1, 1846—1t.

P. S. Our own wool we sold at an average of sixty-eight cents per lb. last season  
**PERKINS & BROWN.**

## SEED WHEAT.

**PURE** Seed Wheat of the "Soules" variety, which yields from 40 to 50 bushels per acre, may be had at \$1 00 per bushel after the 1st of August. Orders may be addressed to

July 1—1t. **BISSELL & HOOKER,**  
No. 1 Arcade, Rochester, N. Y.

## WOOL.

**LIBERAL** advances will be made by the subscriber upon wool consigned for sale, or shipment to England.

July 1—3t. **HAMILTON GAY,**  
53 South-street, New-York.

## AFRICAN GEESE AND WHITE TURKEYS.

**A FEW** pairs of African Geese and White Turkeys for sale. All letters addressed to the subscriber, (post-paid, will be promptly attended to. **GEO. BEMENT.**  
Albany, July 1, 1846—1t.

## "HAND THRESHING MACHINE."

**AS** the season is near at hand when this valuable machine will be wanted by farmers who raise small quantities of grain, the subscriber would call attention to his advertisement concerning it in the last January number of the Cultivator.  
July 1—1t. **J. PLANT,** No. 5 Burling Slip, N. York City.

## WIRE CLOTH SEIVE AND SCREEN MANUFACTORY.

**THE** subscriber has constantly on hand a large assortment of the above articles, which he offers at the lowest market prices.

July, 1846—10 mos. **D. L. CLAWSON.**  
P. S.—All kinds of wire work manufactured to order.

**TURNIP SEED** of every variety for sale in any quantity by **E. Comstock & Co.**, 23 Dean-st., where all other choice seeds and implements are kept constantly on hand.

## AGRICULTURAL WAREHOUSE AND SEED STORE.

138 CHAPEL-ST., NEW-HAVEN



## F. TROWBRIDGE,

Dealer in Agricultural Implements and Machines, Grass, Field, Grain, Garden, Herb, and Flower Seeds, Trees, Plants, &c.

## ALBANY AGRICULTURAL WAREHOUSE.

No. 10 Maiden Lane, and 23 Dean-street.

**THE** above establishment has been greatly enlarged and improved by connecting with the former spacious rooms the store No. 10 Maiden Lane, thus giving us a front on two streets—the stores being connected in the rear. The assortment of improved agricultural machines and implements will be proportionably increased, making one of the most extensive assortments of select and improved agricultural and horticultural tools and machines in this country.

Our location is within six rods of all the railroads leaving the city, and but a few rods from the steamboat landings, thus affording travellers an opportunity to look through our rooms, although they may have but a short time to remain in the city. The proprietors flatter themselves that in all that properly belongs to a well regulated Seed Store and Agricultural and Horticultural Repository, this establishment will fully meet the expectations of the public.

A constant supply of all kinds of tools at wholesale, to which the attention of Merchants is solicited. Farmers and all others who feel any interest in agricultural or horticultural improvement, are respectfully invited to visit us. **E. COMSTOCK & Co.**  
July 1, 1846.

**SUPERIOR HORSE RAKES**, made from the best white oak timber, for sale at the Albany Agricultural Warehouse.  
July 1. **E. COMSTOCK & Co.**

## DURHAM BULL FOR SALE.

**THE** subscriber (not having sufficient use for him,) offers for sale his imported, thorough bred Durham Bull, "Prince Albert."

He is five years old—a roan, of medium size—quiet in temper, and easily managed. For a portrait and description of this bull, see the August number of the Cultivator, and for his pedigree see the British Herd Book, vol. iv., page 382. His sire was the celebrated bull, "Sir Thomas Fairfax."

If not previously sold, he will be offered for sale at the next show of the New-York State Agricultural Society.

Letters on the subject may be addressed to the subscriber at Red Hook, Dutchess county, N. Y., where the bull can be seen.  
Jan. 1, 1846.—if **ROBERT DONALDSON.**